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Inside Dope

By George F. Taubeneck

Note to Manufacturers

Powel Crosley, Jr.
Why He Did It
Big Men Needed
Avco's Topshots
Victor Emanuel

Note to Manufacturers

Did you know that you can pre-empt war contracts?

The War Department's representatives will work with you in ironing out the details of your final settlement before you have received a notice of cancellation and this advance work will be accepted as valid after your war production contract has been cancelled.

That's a mighty handy arrangement for those who are anxious to get back into the production of civilian goods. It helps clear the track for faster reconversion.

Powel Crosley, Jr.

Most interesting news of recent weeks is the sale of the Crosley Corp. to the Aviation Corp. (See story on page 1 of this issue.)

There's a great deal of interesting background material behind this mammoth purchase.

When "Dope" first heard about the negotiations which preliminarily this transaction, he was a bit skeptical.

Reason: it didn't seem possible that Powell would give up his dream of becoming a leading automobile manufacturer.

We knew, from hearing him talk, how much store he set upon the realization of that dream.

Well, when the sale finally was concluded, it turned out that Powell hadn't relinquished that dream. He had reserved the Crosley Car business for himself.

For many years, "Dope" has maintained that Powell Crosley, Jr., has enjoyed one of the most interesting lives of any man we know.

Just look: he owned and operated one of the nation's leading radio stations (which had more than the normal share of glamour which attends most radio broadcasting); he owned and operated the Cincinnati Reds major league baseball team; he owned and operated a tremendous manufacturing business. All under one tent!

He still has that fine baseball team. But now he can concentrate on the automobile business—which is the biggest business in the world, and the toughest to crack. And that's the one which challenges him the most.

Why He Did It

So we believe him when he writes:

"My decision to sell was based on personal considerations, one of which was my desire to concentrate on the manufacture of the Crosley automobile. We are planning a new light car, much improved in design and quality over the prewar model.

"A new company will be organized to produce and sell the car. Crosley stockholders will have an opportunity to acquire pro-rata interests in the new company.

"However, I will remain on the Crosley board of directors, and will continue to take an active interest in the affairs and progress of the company.

"Avco executives have made it clear that no change is contemplated either in management policy or in the operating heads of the Crosley manufacturing plant or the radio broadcasting division.

"Joining forces with Avco and its associated companies will broaden the Crosley peacetime lines and strengthen its nation-wide retail outlets." (Concluded on Page 8, Column 1)

No Changes In Crosley Policy Planned—Avco

CINCINNATI—There seems to be no indication at this time that there will be any major changes in the operation of Crosley Corp., which will operate as a subsidiary of The Aviation Corp. if the purchase (as reported in the June 25 Bulletin Edition) is approved by the Federal Communications Commission.

In announcing that they were purchasing 64% of Crosley Corp.'s 545,800 shares of stock, Victor Emanuel, chairman, and Irving B. Babcock, president of Avco, stated that "no change is planned in Crosley management policies or in operating personnel."

J. H. Rasmussen, general sales manager, Crosley manufacturing division, addressed a letter to all Crosley distributors, in which he said in part:

"R. C. Cosgrove will retain his position as vice president and general manager. There will be no changes in policy or in operating personnel. I do not plan any changes in the sales department. The previously planned expansion program will be carried through."

Announcement of Avco's purchase of Crosley led to some conjecturing in the trade as to what might become of Avco's own activity in the development of a line of appliances.

Development along these lines has been underway for about two years, and there had been some indication that preliminary models of gas and (Concluded on Page 29, Column 2)

Fedders To Resume Unit Cooler Line

BUFFALO — Fedders Mfg. Co., Inc., which dropped its refrigeration line except for water coolers during the war, is definitely planning to return to the field, according to E. C. Scott, sales manager in charge of air conditioning and heating.

Production plans have already been drawn up to resume manufacture of its line of forced draft unit coolers and, before the end of the year, at least one model will be on the market, Mr. Scott said, adding that the first models will resemble quite closely the prewar design.

"We will also produce condenser coils for the condensing unit manufacturers, but we probably won't resume valve production," he declared.

Prior to the war Fedders had a complete line of thermostatic and (Concluded on Back Page, Column 3)

Gas From Well-Water System Kills 2 In Detroit Theater

By C. Dale Mericle

DETROIT—Two theater employees were killed and three other men overcome in rescue attempts when hydrogen sulphide gas escaped from a faulty well-water air conditioning system at the Iris theater, a neighborhood movie house on Detroit's east side, Sunday, June 24. No mechanical refrigeration equipment of any type is included in this system.

The victims were the theater manager, a 56-year-old man, and the ticket-taker, a youth of 22, who were discovered unconscious in the basement machinery room of the movie house, where apparently they had gone to examine the air conditioning system, according to police.

The ticket-taker was dead on admittance to Receiving Hospital 40 minutes after the pair were discovered, and the manager died about three hours later.

12 Firms Get Okay For Production of 155,797 Washers

WASHINGTON, D. C.—Authorizations for the production of 155,797 domestic washing machines in the third quarter have been assigned to 12 manufacturers, and the balance of the 350,000 units scheduled for this quarter will probably be assigned by July 1, according to WPB.

Allotments of controlled materials, such as steel, aluminum, and copper, will be issued to the manufacturers by WPB, which also assigns AA-3 preference rating for orders on other materials and components.

Quota assignments will permit washer manufacturers to produce at about 27% of their pre-war level of output, according to Stanley Adams, director of WPB's consumer durable goods division.

Average prices for washers will be "equal to or lower than" the average prewar price, Mr. Adams declared.

Rated military and other orders will get first call on the new washers, but those not needed to fill these demands may be made available to the general public through normal channels. (Concluded on Back Page, Column 1)

Repairmen Can Use CMP 9A Ratings On Motor Repairs

WASHINGTON, D. C.—Repairmen using the ratings assigned by CMP Regulation 9-A or Order P-126 may use the ratings to get motors repaired, rewound, or rebuilt if they are used in such products as refrigerators, washers, oil burners, coal stokers, or in commercial refrigerating systems, despite the provisions of Priorities Regulation 3, the WPB ruled on June 22.

What this means in effect is that repairmen can apply a rating that will push their motor repairs ahead of unrated work and AA-5 rated orders.

Credit is due to the Electrical and Mechanical Repair Trades Section of the Office of Civilian Requirements in getting this provision through.

Text of Directive 5 to CMP Regulation 9-A is as follows:

USE OF RATINGS FOR REPAIR OF MOTORS

Despite the provisions of paragraph (f) of Priorities Regulation 3, repairmen using the ratings assigned by CMP Regulation 9A or Order P-126, may use the rating to get motors repaired, rewound, or rebuilt which are used in such products as household refrigerators, washers, oil burners, coal stokers, etc., or in commercial refrigeration systems.

All Restrictions on Refrigerators May Be Off Jan. 1, WPB Says

Williams To Return To Cooling Field

BLOOMINGTON, Ill.—Extensive plans for its "Air-O-Matic" year-around air conditioning, and contemplated return to the commercial refrigeration field with its "Ice-O-Matic" line have been announced by W. A. Matheson, manager of the Williams Oil-O-Matic Division and a vice president and director of the Eureka Vacuum Cleaner Co., which recently merged with the Williams company.

As previously announced, Henry W. Burritt, Eureka president since 1939, is president of the merged companies.

Both Oil-O-Matic and Eureka will continue with entirely separate, completely independent sales and merchandising set-ups, and product trademarks will be carried as before, it was said.

All of the directors and officers of Williams Oil-O-Matic, except Walter W. Williams, continue with Oil-O-Matic. Under terms of the merger, Mr. Williams, principal shareholder of Williams Oil-O-Matic, disposed of his entire interest in the company to Eureka. While other Oil-O-Matic shareholders also had the privilege of disposing of their stock at the same price received by Mr. Williams, few took advantage of this offer. Remaining shareholders receive one share of Eureka for each two shares of Oil-O-Matic they hold.

"Eureka, well-known in the vacuum cleaner field, will continue to (Concluded on Back Page, Column 1)

U.S. Standards Set Up For Water Coolers

WASHINGTON, D. C.—Recommended commercial standard for self-contained mechanically refrigerated drinking water coolers has been approved by a satisfactory majority of manufacturers, distributors, and purchasers, and will be considered effective for new production six months after official announcement of the war's end, announces I. J. Fairchild, chief, Division of Trade Standards, National Bureau of Standards.

The new standard, identified as CS127-45, was circulated to the trade April 7 this year as TS-3921. Original proposed standard was drawn up at the instance of the Water Cooler and Drinking Fountain Manufacturers Association on Nov. 25, 1943, and submitted to manufacturers, users, distributors, and government agencies for comment, according to Mr. Fairchild.

Commercial standards should not (Concluded on Page 29, Column 2)

Logan Will Direct Sales For Electric Power Corp.

PHILADELPHIA — Charles R. Logan, who recently resigned as eastern district manager for Superior Valve & Fittings Co., has joined the Electric Power Equipment Corp. of Philadelphia as vice president in charge of sales. The company plans to enter the commercial refrigeration field.

A former president of the American Society of Refrigerating Engineers, Mr. Logan has been identified with the refrigeration industry for 21 years. He was formerly commercial regional supervisor of York Corp. and at one time directed refrigerator sales for the Electrolux division of Philadelphia Gas Works Co.

3rd Quarter Production Quotas Are Announced For 9 Manufacturers

WASHINGTON, D. C.—In announcing quotas for production of 227,000 mechanical refrigerators, Stanley Adams, director of WPB's Consumers Durable Goods Division, predicted that "a goodly portion" of the program would be completed by September. However, he emphasized that all units manufactured in the third quarter will be placed in the stockpile and will be available only for essential users.

When the daily rate of production reaches the rate of distribution, all restrictions will be removed, Mr. Adams said. He predicted that this might be by Jan. 1.

Average prices for refrigerators will be "equal to or lower than" the average price at which they were sold before the war, he declared. This will undoubtedly encourage the production of the so-called "stripped model," having a minimum of features, and selling in the lower price brackets.

Following are the quotas announced by Mr. Adams. It should be noted that production of 38,000 units is still unassigned, and will probably go to some manufacturers not on the original list:

Company	Quantities
Frigidaire Division, Dayton	56,445
General Electric Co., Erie, Pa.	47,501
Nash-Kelvinator Corp., Detroit	27,825
Seeger-Sunbeam, Evansville, Ind. and St. Paul, Minn.	25,639
Westinghouse Electric Corp., Mansfield, Ohio	21,068
Servel, Inc., Evansville, Ind.	20,272
Norge Division, Borg-Warner Corp., Muskegon, Mich.	14,369
Philco Corp., Connorsville, Ind., Chicago, & Tecumseh, Mich.	12,090
Ranney Refrigerator Co., Greenville, Mich.; Sidney, Ohio, and Tecumseh, Mich.	2,500

Manufacturers can make refrigerators beyond these quotas if they can find materials, and if they get manpower clearance where necessary.

Few Civilian Ranges Expected 3rd Quarter

WASHINGTON, D. C.—Production of electric ranges may increase somewhat in the third quarter, but comparatively few are expected to reach retail channels, reports WPB.

Electric ranges are not rationed, but the greater part of the programmed production (set at a maximum of 35,000 ranges for the quarter) goes to the military services, to housing projects approved by the National Housing Agency, and to institutions that certify need for use with existing service facilities.

Enlarged production will depend on the availability of labor and manufacturers' ability to obtain materials and components without WPB priorities assistance.

In anticipation of reconversion, James F. Brownlee, Deputy Administrator for the Price Department, Office of Price Administration, has discussed with the industry the line of ranges to be put on the market when non-programmed manufacture gets under way. Production of large quantities of low and medium-priced articles is desired as an anti-inflation measure and to prevent hardships to low-salaried and fixed-income groups.

An average-price range, or a limited line including lower and medium-priced models, will be produced in the first months of reconversion. (Concluded on Back Page, Column 2)

**STAINLESS STEEL
SHELVES FOR MANY
YEARS HAVE PROVED
THEIR ECONOMY
AND DEPENDABILITY**



**WALL WIRE
PRODUCTS
COMPANY**

11333 GENERAL DRIVE
PLYMOUTH, MICHIGAN

Makers of STAINLESS STEEL AND

REFINISHED REFRIGERATOR SHELVES AND WELDED WIRE PRODUCTS

Industrial Conference Board Tells Why OPA Pricing Is Likely To Retard Reconversion

NEW YORK CITY—Asserting that OPA's reconversion pricing formula will impede speedy expansion of civilian production because it is based on faulty assumptions about unit costs and overhead, a detailed study of the program and its probable consequences by the staff of the National Industrial Conference Board emphasizes the need for greater reliance on the profit incentive in reconversion pricing, and a more definite yardstick for the removal of price controls after final victory.

"OPA's price control program," the study declares (June 19) "might work very well if the economy were already reconverted to peacetime production and going at full blast. Then, of course, it wouldn't be needed. Because it is based on assumptions about unit costs and profit ratios that would be applicable at best only under conditions of full production, it is really a post-reconversion program."

UNIT COSTS MAY BE HIGHER

"But during the reconversion period civilian production in industries that have been engaged in war production for three years or more will begin on a limited scale. In many, if not most cases, production will accelerate slowly while plants are re-equipped, personnel is re-organized, and markets are being reestablished. Unit costs and over-

head in this critical period will be higher than those assumed by OPA.

"Under the inelastic ceiling-price system it has announced there will be no margin of profit between these costs and the ceilings for many prime producers and manufacturers. A great many of them will be driven to the wall or discouraged, and, unless more realistic pricing formulas are adopted, the program promises to defeat or seriously delay reconversion and full production."

3 MISTAKEN ASSUMPTIONS

The study said OPA had made three mistaken assumptions: That labor productivity has so increased that current wage rates are desirable for reconversion; that a volume of production greater than in 1941 would make possible reduced selling expenses, and that the profit for each unit in 1936-39 is "representative" for reconversion purposes.

It observes that drastic changes in the character of production during the war have upset the conventional indexes of productivity per worker, but points out that output per man hour in many civilian industries was lower in 1943 and 1944 than it was in 1939, according to studies by the Conference Board and the Bureau of Labor Statistics, while unit labor costs have risen sharply.

"OPA has over-emphasized increased physical productivity and played down increased unit labor costs," the study declares. "Profits are still tied to 1936-38 relationships, while labor costs are moved forward to May, 1945."

Concerning the second assumption, relating to volume production, the study says: "The pertinent question here is whether high production will be achieved in the months immediately ahead for which the reconversion pricing program is designed."

'36-'39 MARGINS ENOUGH?

OPA's third assumption, adequacy of 1936-39 profit margins, is questioned on three grounds: Failure to allow for increased costs outside labor and materials, such as making good deferred maintenance, rebuilding depleted inventories, and re-establishing civilian markets after selling entire output to the government for several years; the fact that more than 50% of manufacturing corporations failed to make a profit in the base period; and OPA's policy of refusing relief to individual firms where industry-wide earnings are adequate in relation to the base period, a policy at variance with that of Congress in providing relief under the excess-profits tax for concerns able to prove their operations were not "normal" in the 1936-39 period.

WHEN DO CONTROLS GO?

Depicting uncertainty about the duration of price controls as another deterrent to energetic reconversion, the Conference Board study declares: "The criteria and time schedule for the relaxation of controls may well become the center of bitter dispute. OPA has simply promised that controls will be relaxed just as soon as they possibly can or when supply and demand are brought into equilibrium, or 'as fast as the need for them ends.'"

The study asserts that "these open-end promises of relaxation form a poor basis for forward planning

by American business. Prices are too significant a determinant of business activity and of production for market to be dismissed without more specific assurance of future policy. Administrative decisions regarding relaxation 'on a selective basis' may not make for confidence in the course of future prices."

"After the war," the study concludes, "it will again be necessary to rely upon the profit incentive to obtain an adequate supply of goods. Motives that impelled all-out production during the war, despite a relatively low return on sales, will be absent."

"It is questionable whether OPA in its formula has found an acceptable substitute, particularly in its insistence upon tight margins and its use of 1936-39 as a 'normal' period. Demands for relaxation or cessation of controls are bound to arise if material and human resources, freed for civilian production, remain unemployed because ceilings discourage production."

Krich 'Package' Kitchen To Offer Products of Various Manufacturers

NEWARK, N. J.—Extensive promotion of completely equipped kitchens centering around its newly devised "Triple A All-American Automatic" package will feature postwar merchandising activities of Krich-Radisco, Inc., appliance distributor here.

The package offers a combination of Norge refrigerators, home freezers, electric and gas ranges; Bendix automatic washers; Eureka garbage disposers; and American sinks and automatic dishwashers. All these lines are handled by 90% of the firm's dealers.

In addition, the company distributes RCA Victor, Ironrite, and New Home lines.

Dealer displays are expected to be based on the "packaged kitchen" idea, using the registered name "Triple A All-American Automatic."

To help dealers by furnishing them with sales helps, sales methods, and layouts for complete kitchen selling, Krich-Radisco will establish a "Triple A Institute" headed by a home planner and economist with a trained staff.

Ohio Measure Would Set Carrying Charges

COLUMBUS, Ohio—A measure which would limit carrying charges on retail instalment contracts was recently recommended for passage by the judiciary committee of the Ohio House of Representatives.

Under the proposed legislation, maximum financing charges would be: 12% a year on the first \$100 of the unpaid balance; 10% on the next \$200 of unpaid balance; 7% on unpaid balance in excess of \$300.

Introduced by Rep. Howard M. Metzenbaum, Cuyahoga Democrat, who said charges now run as high as 60%, the bill also prescribes the form of retail instalment contract and sets a scale for additional charges against delinquent payments. A fine of \$1,000 or a year's imprisonment, is proposed.

No doubt about aluminum's ability to do a good job here. Aluminum shelves went into thousands of household refrigerators before the war.

Aluminum gives you a lightweight shelf, easy to handle in cleaning, but sturdy and strong. It can be given the attractive, durable Alumilite finish (process patented); good looking on the sales

floor, and it stays that way. No staining to cause complaints after refrigerators get into service.

Standardize on Alcoa Aluminum for your shelves, and be ready to swing into quantity production as releases for civilian products permit. ALUMINUM COMPANY OF AMERICA, 1975 Gulf Building, Pittsburgh 19, Pennsylvania.

*Figure on making those shelves
of Alcoa Aluminum*

ALCOA FIRST IN ALUMINUM



**HARDER Freez
HOME LOCKER**

COMPARE HARDER Freez and see why experts say it will outsell any other unit of its kind! 12 cubic-foot capacity. Temperature control. 25% more insulation. OKAY Plate Coil. Modern design. Available this year.

TYLER FIXTURE CORPORATION
Dept. R-7 Niles, Michigan
Rush data on HARDER Freez.
Name _____
Address _____

**WRITE
TODAY!**





Here's why Frigidaire Dealers know where tomorrow's big advances are coming from!

THERE'S NO DOUBT in the minds of Frigidaire Dealers as to which manufacturer will score the really important advances in refrigerator design during the years ahead.

For they know that the only sound way to measure promises for the future is by the record of past performance. And they have to look back only to 1939 to be reminded that it was Frigidaire which pioneered the most revolutionary refrigeration advance in recent years.

This was the sensational Frigidaire Cold Wall Refrigerator, first practical application to household refrigeration of direct cooling *through the walls*, instead of by conventional methods.

Nor is this all. The greatest forward step in refrigeration previous to the Cold Wall was the development, in cooperation with General Motors research scientists, of "Freon"—a refrigerant with such ideal properties that practically all mechanical refrigerators now use it.

And in addition to "Freon?" The Meter-Miser, simplest refrigerating mechanism ever built—another Frigidaire triumph in product design.

The Hydrator . . . the Cold Control . . . the Quickcube Ice Tray . . . the one-piece, all-steel cabinet—all these and many more were "Frigidaire Firsts" in product design!

Frigidaire Dealers—and Frigidaire Product Design

The Frigidaire Cold Wall gave Frigidaire Dealers overwhelming selling advantages—foods kept fresh for days without covering . . . no transfer of food odors . . . two storage compartments, completely separate and maintained at different temperatures . . .

Looking ahead, Frigidaire Dealers know that the same kind of research that developed the Cold Wall, and all Frigidaire's other "Firsts," will continue to bring them the leadership in product design that means . . . *Leadership in Sales!*

BUY AND KEEP MORE WAR BONDS!

**Look to Frigidaire
for Leadership through
... PRODUCT DESIGN!**

For Excellence
ARMY NAVY
in War Production

FRIGIDAIRE

Division of

GENERAL MOTORS

DAYTON 1, OHIO • LEASIDE 12, ONTARIO

Peacetime builders of

REFRIGERATORS • RANGES • WATER HEATERS
HOME FREEZERS • ICE CREAM CABINETS
COMMERCIAL REFRIGERATION • AIR CONDITIONERS
BEVERAGE, MILK, AND WATER COOLERS

Announcement

POTTER and HALSEY, Inc.

545 FIFTH AVENUE
NEW YORK 17, N. Y.

has been appointed by

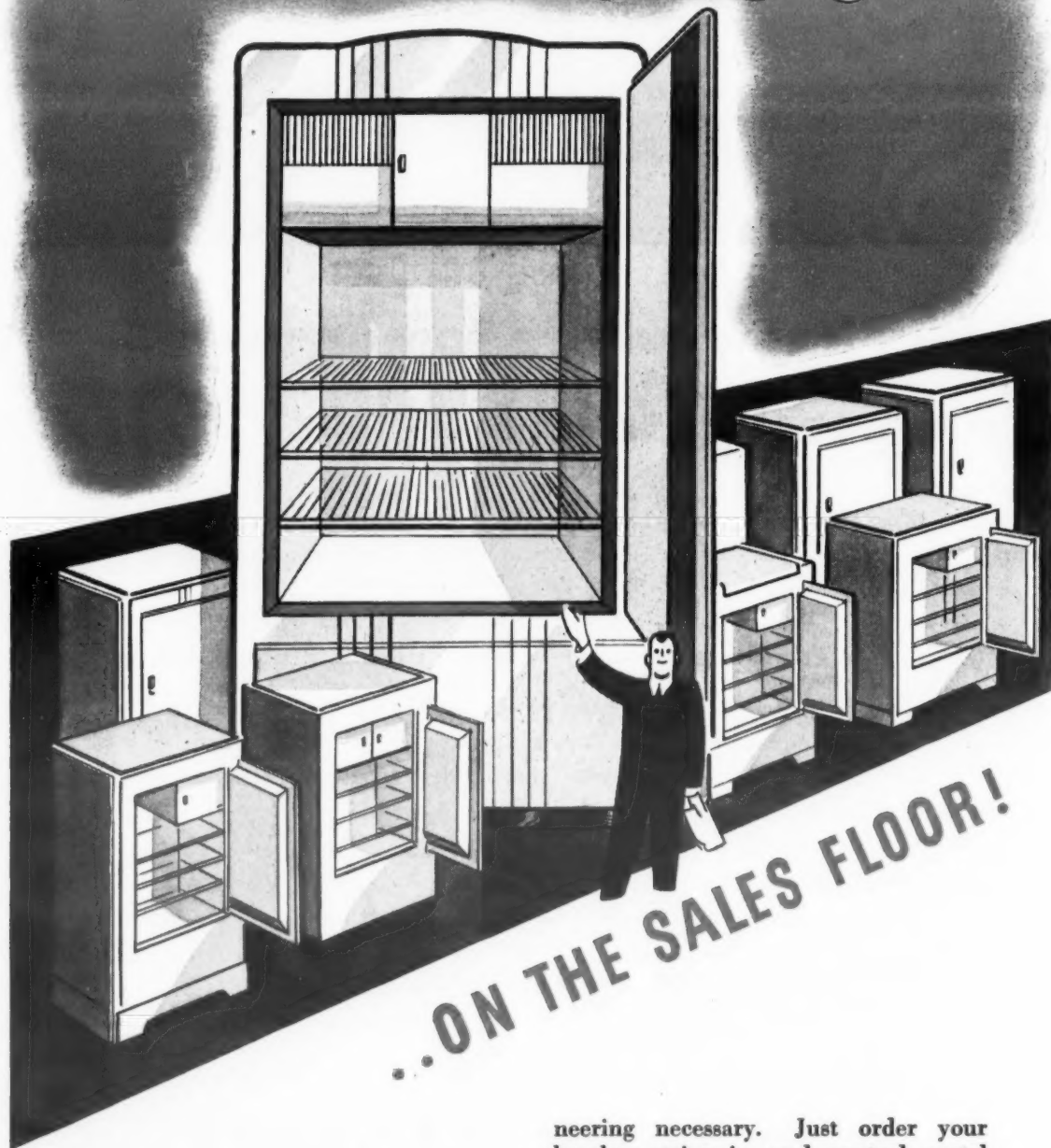
REFRIGERATION PATENTS CORPORATION
OF BUFFALO, N. Y.

as its sole agent for the purpose of negotiating licenses with responsible manufacturers under Potter *et al.* Patent No. 2,056,165 pertaining to household refrigerators. Attractive terms are offered.

Inquiries solicited

★ ★ ★ ★ BUY MORE WAR BONDS ★ ★ ★ ★

STANDS OUT



It is easier to see a refrigerator with Formica colored breaker strips and door backs on the salesroom floor, than it is one in plain black and white.

Watch the prospects pick it out and walk right up to it!

You can get this strong selling force for your first after-the-war boxes, for there is no elaborate preliminary engi-

neering necessary. Just order your breaker strips in cool neutral pastel colors instead of black or white and install them just as you have always installed them.

Formica will stand sweating without spotting. It is hard and durable and will take the attention of the most energetic housekeepers without deterioration in appearance. Samples sent to manufacturers on request.

THE FORMICA INSULATION CO.
4613 Spring Grove Ave. Cincinnati 32, Ohio

FORMICA

Well Water Gas Kills 2--

(Concluded from Page 1, Column 3)
theater owner representative told investigators.

For some years the theater has received complaints, chiefly from adjoining stores, concerning the bad odor from the well-water system, admitted the representative. Originally the well water had been discharged into a "dry" well at the rear of the theater, but this never worked satisfactorily so in recent years the waste water has been dumped into the city sewer system, he explained.

To counteract the unpleasant odor the theater management for the past few years has added a special corrosion inhibitor to the well water, as it left the pump, which was intended to destroy the odor, said the theater representative.

When the theater manager had observed the presence of hydrogen sulphide gas as he started the pump on Saturday, he stopped the pump and asked the local representative of North American Fibre Products Co. of Cleveland, which supplies the inhibiting agent, to check the system with him the next day, Sunday, reported the theater owners.

Upon examining the by-pass hook-up at the pump where the inhibitor is added to the system on Sunday afternoon, the man who supplies the inhibitor and the theater manager found the valve "frozen" so that none of the fluid could be added, investigators were told by the inhibitor supplier, who also said that he had advised the theater manager to have a plumber install a new by-pass valve and piping the next day.

Later the ticket-taker and the theater manager went down to the poorly ventilated machinery room for some unknown reason, it was reported. At the time of the accident the well pump was still operating and it required some time to locate a switch to turn it off, police say.

OPEN BREAKS IN COIL

The cooling coil through which the well water was pumped at a rate of approximately 60 g.p.m. was in extremely poor condition, according to Board of Health officials. At several points there were open breaks in the coil, chiefly where the coil pipes joined the header, they said, adding the water was still trickling out of these breaks several hours after the pump had been shut down. Vent pipes from the coils were also rusted away, and appeared to be clogged up, they declared.

Investigators were also puzzled by the fact that corner sections of several coils, chiefly in the lowest banks, had been completely eaten away, with only a gray deposit left, which, they said, might possibly be aluminum salts. Coil sections will be examined by chemists, they reported.

Chief mystery of the accident, say Board of Health investigators, is why the multiple v-belts which drive the air-cooling blower in the machinery room were off both the motor and fan pulleys. Inconclusive evidence seems to show, they think, that water squirting out of the breaks in the coils under pressure fell on the belts and the fan motor's slip ring, perhaps causing a short circuit and throwing the belts.

Investigators suspect that the ticket-taker and theater manager may have gone down to the basement machinery room to determine the cause of the fan motor's failure.

STRONG GAS CONCENTRATION

Concentration of hydrogen sulphide gas in the machinery room at the time of the accident was strong enough to "knock out" these men in five to 10 minutes, and preliminary examination of samples of the well water shows a source of this gas sufficient to have caused their deaths, declares Dr. William G. Frederick, of the Detroit Board of Health's Bureau of Industrial Hygiene, active in the investigation.

"When representatives of the Sewer Maintenance Division of Detroit's Department of Public Works tested the air in the machinery room of the theater the night of the accident, they found hydrogen sulphide gas present in the air at the top of the basement in proportion of 600 parts per million," declared Dr. Frederick.

"Even 100 ppm. of hydrogen sulphide will knock a man out in a few minutes," he said.

Examination of water samples

from the well of the Iris theater revealed that hydrogen sulphide was present in amounts of between 300 and 400 milliliters per gallon, according to Dr. Frederick. This means that one gallon of this well water could supply 100 ppm. of hydrogen sulphide to 100 cu. ft. of air, he explained.

"Conditions were also ideal to separate the gas from the well water in the machinery room of the theater," he said. "When water is sprayed out in fine streams and bounces off the walls, it is readily degassed. In fact, that is the principle employed in many laboratories to remove gas from water," added Dr. Frederick.

POTENTIAL HAZARD

"This accident further shows the potential hazard of using hydrogen sulphide well water in such an air conditioning system," he pointed out. "If the space is well ventilated the hydrogen sulphide will be readily dispersed."

"However, any system using hydrogen sulphide water must have proper maintenance and adequate ventilation, and in addition, there should be a gas mask available for use in the slightest odor of hydrogen sulphide is observed," warned Dr. Frederick.

"This gas is extremely dangerous and the nose cannot tell you how much of it is present," he added. "Its action first 'blacks out' the sense of smell so that the person cannot determine the concentration of the gas merely by the degree of odor. It is also advisable to have a hydrogen sulphide gas detector on hand, in addition to a gas mask."

Dr. Frederick also said he doubts that most well-water systems using the chemical inhibiting agent applied the solution properly. It consists chiefly of sodium hydroxide, which acts as a corrosion inhibitor and tends to "fix" the hydrogen sulphide to form a salt, he explained.

"I strongly suspect that most such installations don't put enough of the inhibitor into the system to fix the hydrogen sulphide, for it requires rather elaborate equipment; much more elaborate than was installed in the Iris theater system, for example," he stated.

ENGINEER RAPS SYSTEM

"I wish there were some way that we could eliminate these well-water systems completely where sulphur water is involved," declared R. Gardiner Legg, sanitary engineer and secretary of the Detroit Board of Health.

"The danger features and odor create several problems in connection with using these 'inexpensive' well-water systems where sulphur water is present," he added.

Several years ago the Detroit Sewer Maintenance Division had two men as the result of hydrogen sulphide from another theater well-water system, Mr. Legg revealed. The men were killed in a manhole by gas fumes arising from well water discharged by the theater into the sewer, he said.

Stating that his department and the Bureau of Safety Engineering have already started a joint investigation of all the well-water air conditioning systems in Detroit, Mr. Legg declared that as soon as the studies are completed the Board of Health will probably propose a city ordinance to cover this type of system.

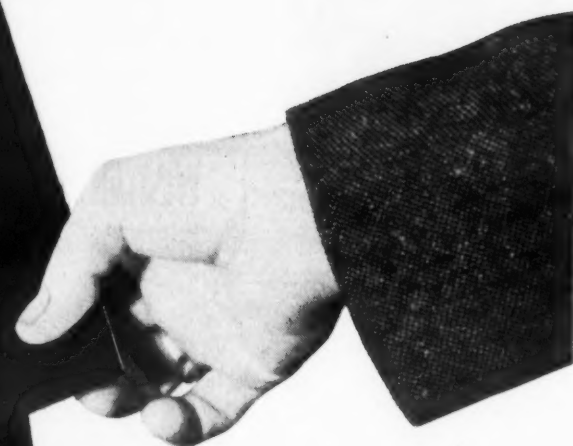
ORDINANCE PLANNED

H. H. Mills, who is in charge of the refrigeration division of the city Department of Buildings and Safety Engineering and is responsible for enforcement of the municipal refrigeration and air conditioning code, said, "The investigation so far indicates possible conditions which lead me to believe that controlled supervision and inspection of such systems is necessary."

"At present I don't know whether these systems should come under the regular refrigeration code, or if they should be handled by the health department, but the decision will be made following the surveys of other well-water systems," he said.

As an aftermath of the accident relatives of the deceased theater manager have engaged an attorney who says he will probably file suit against the theater owners and the manufacturer of the equipment involved.

THE *United* BLUEPRINT FOR PROFIT



United Makes

- ★ WALK-IN COOLERS
- ★ REACH-INS
- ★ DRY-KOOL BOTTLE COOLERS
- ★ FARM MILK COOLERS
- ★ KOOLMASTER BEER DISPENSERS
- ★ DISPLAY CASES
- ★ FROZEN FOOD CABINETS
- ★ TWO-TEMP WALK-INS
- ★ LO-TEMP WALK-INS

Ready for your consideration.....

A selling and merchandising plan that will open new profit opportunities for United distributors and provide the products, promotion and protection by which they can achieve and maintain sales leadership in their markets against the best that competition can offer. Complete details of this plan are graphically presented in a portfolio which you are invited to see at your convenience. You're in for a pleasant surprise!

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Sales Division: Saint Paul, Minn.

Export Sales Division, 70 Pine Street, New York 5, N. Y., U.S.A.

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UNITED COMMERCIAL REFRIGERATOR LINE

Product Planning

Man wanted with wide acquaintance in washing machine manufacturing industry to assist in planning products and to follow-up engineering and other departments in development and manufacturing of such products. Good salary. Will report to president of company. Give complete personal, educational, and employment history in first letter including previous earnings. Box 1765, Air Conditioning & Refrigeration News.



VISOLEAK

is a finely-treated colored refrigerant oil which penetrates every nook and cranny of the system. The leak is indicated by a red stain—similar to the discoloration on a carburetor in which ethyl gasoline has been used. Can be used safely and effectively with any type of refrigerant.

See your jobber today. If he has not stocked Visoleak write for complete information.

WESTERN THERMAL EQUIPMENT CO.
5141 ANGELES VISTA BLVD.
LOS ANGELES 43, CALIF.

WHOLESALE PRICES		CASE LOTS	
4 ounce bottle	\$ 1.00	48 bottles	
8 ounce bottle	1.75	24 bottles	
1 pint bottle	3.00	12 bottles	
1 quart bottle	5.00	6 cans	
1 gallon can	16.00		

SAVE 10% ON CASE LOTS

Surveys Spotlight Desired Appliances, What Public Expects To Pay, Where They'll Buy

Six surveys of the postwar appliance market conducted in various sections of the country by reputable organizations are summarized here to assist manufacturers, distributors, and dealers in evaluating various phases of the present and future markets for electrical appliances.

Information was gathered from the following sources: Carolina

Power & Light Co. survey of its customers; Modern Magazines survey of their readers; Scripps-Howard survey of residents in 13 cities in which its newspapers are published; Equitable Trust Co. survey of Wilmington, Del., territory; The Milwaukee Journal survey of greater Milwaukee; and The Des Moines Register and Tribune survey of Iowa.

to pay as high as \$200.

No wholesale redemption of war bonds postwar is indicated in the area, since 1,150 people, or 55% of those whose replies were analyzed, plan to pay cash for more than 50% of the cost of their purchases.

The area covered by this survey is perhaps as typical of the country as a whole as any similar size geographical unit, since it includes the city of Wilmington with its thousands of office and factory workers and also rural New Castle county with its farms and smaller towns. States J. B. Jessup, president of Equitable Trust.

Refrigerators Way Over Freezers In Carolina

In the Carolina Power & Light Co. area, the demand for electric refrigerators lead other appliance demands with a total of 23,876 prospects, 16,556 of which are replacements of old electric refrigerators, while 7,320 are prospective buyers desiring to replace other types of refrigeration.

Electric ranges were second in demand and numbered 20,387 in toto, 3,578 being replacements, and 16,809 new prospects wishing to replace other fuel type ranges postwar. Washing machines were third with 15,473 postwar prospects.

Prospective electric water heater sales numbered 8,010 which subdivided into 298 replacements and 7,712 new users. 1,625 prospects for electric home freezers were recorded in the survey.

They Expect To Pay \$200 For Refrigerator

Of the 2,000 people interviewed in regard to postwar purchases by the Equitable Trust Co. in the Wilmington, Del., area, 551 or 28% stated an intent to purchase a new refrigerator when available.

A point of note in this survey is that the average price expected on a refrigerator was \$196. Only 19% of the replies indicated any resistance to paying this much for a new refrigerator, while 22% of the total chose \$200 as their estimated cost.

Another 22% were apparently willing to pay as much as \$300. And still another 22%, or about one out of every five people, will pay \$500 or more. Majority of these people probably want and expect a separate frozen foods compartment in their new unit, or desire the larger size boxes.

Thirty seven per cent of those interviewed indicated washing machines as a postwar purchase, the average estimated cost being \$124.

Little difficulty is indicated in the selling of kitchen ranges in the Wilmington area, since 350 of the 2,000 people expect to purchase a new gas or electric range at an average price of \$130.

Since this average price seems a bit high, especially for gas ranges, further analysis of the replies discloses that 54%, more than half, plan to pay no more than \$100 for their ranges, the next popular figure in this group being \$75. However, 20%, or one out of five, are willing

Survey of 13 Cities Turns Up Buying Facts

73.8% of the homes in 13 cities surveyed as to electrical appliances and home furnishings by the Scripps-Howard newspapers were found to have mechanical refrigeration, 66.9% of which were electric models and 6.9% gas models.

By and large, southern markets have a very high percentage of ice boxes still in use, while in San Francisco climatic conditions are such that 15.5% of the homes have no refrigeration of any kind, 5.8% have window boxes, and 16.1% have ice boxes. 59.2% of San Francisco families have mechanical refrigerators, 20% of these being owned by the landlord.

In answer to the question concerning the age of refrigerators now in use, 41.4% of the housewives interviewed said their units had been purchased within the last five years. 58.6% of those interviewed set the age of their present refrigerators at more than five years, indicating a general replacement market postwar. Place of purchase of present units subdivided as follows: syndicate mail order purchases, 11.9%; department store, 12.2%; utility company, 12%; hardware store, 3.3%; furniture store, 17.2%; independent appliance store, 23.6%; and other points of purchase, 19.8%.

(Concluded on next page)



The STOKOL Policy

IT WAS NO ACCIDENT that Stokol achieved a top place in the stoker field. Stokol founded their business on giving the American public the best stoker money can buy. The next step was to build a sales organization which would afford dealers and salesmen an opportunity to make a fair profit. Then, Stokol supported these dealers with aggressive advertising to help them sell the product. More than 140,000 satisfied owners testify to the success of this policy.

Now, Stokol is making an even

stronger bid for the huge potential stoker market. With the widest line—the greatest variety of models and range of sizes; with stokers designed for all solid fuels, from lignite of the northwest to anthracite of the east, Stokol is in a position to supply every stoker requirement. Backed by an even more aggressive advertising program—both national and local—and an enviable reputation in the industry, Stokol offers dealers a very sound opportunity for greater profits. Write today for the details. Stokol Stoker Company, Inc., Indianapolis 7, Indiana.



STOKOL STOKER CO., INC.
1145 E. 22ND ST., INDIANAPOLIS 7, IND.
Gentlemen: Send details of Stokol profit possibilities for me as a dealer.

NAME _____
ADDRESS _____
CITY _____ STATE _____

Tear Out This Coupon and Mail Today

Leadership

... is an un-answerable argument

The customer list of Tecumseh Products Company reads like "Who's Who" in Refrigeration. The brand names are "Tops" in the industry. Why this swing to Tecumseh?

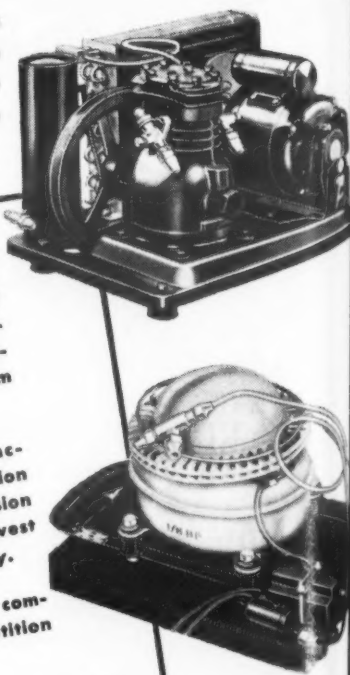
The Answer is Four-Fold!

1 An Outstanding PRODUCT! Hermetic and conventional condensing units and compressors, for all types of equipment, designed on sound engineering principles for long trouble-free operation, efficiency and freedom from noise and vibration.

2 An Efficient PLANT! A distinctive achievement in the application of line production to fine precision tooling, skilled workmanship at lowest cost consistent with highest quality.

3 A Sound Sales POLICY! No completed products—no competition with customers.

4 An Attractive PRICE! The price schedules on Tecumseh Units have always been at least competitive—often low. This has resulted from low costs due to large production on automatic, single purpose tools.



Write or Wire To
for Complete
Information

Chieftain
CONDENSERS COMPRESSORS



TECUMSEH
PRODUCTS CO.
TECUMSEH, MICH.

Unusual Facts on Appliance Market Turned Up In Surveys

(Concluded from preceding page)

Regarding probable place of purchase of customer's next mechanical refrigerator, the following statistics were gleaned: syndicate or mail order purchases, 5.0%; department store, 13.0%; utility company, 13.0%; hardware store, 1.7%; furniture store, 1.7%; independent appliance store, 1.6%; others, 5.9%; undecided, 26.6%.

Home freezing units of one type or another are owned only at present by 1.6% of those interviewed in the Scripps-Howard survey, while 12.7% of the families intend to buy a home freezer postwar.

FREEZER IN REFRIGERATOR?

When asked if they wanted the freezing unit separate or included with a mechanical refrigerator, 54.0% favored its inclusion, 30.5% preferred their freezer as a separate unit, and 15.5% were undecided.

Housewives interviewed in regard to type of cooking range now in the home answered as follows: those who owned electric ranges totaled 11%; those possessing gas ranges, 33.3%; those with coal or wood, 10.0%; and those employing various other types numbered 4.6%.

Ranges purchased during the last five years totaled 42.5%, and ranges purchased longer than five years ago totaled 57.5%.

WHERE THEY'LL BUY

Range point of purchase by type of store as calculated from the complete survey totals as follows: syndicate or mail order firms, 5.7%; department stores, 13.1%; utility companies, 13.2%; hardware stores, 1.8%; furniture stores, 26.2%; independent appliance dealers, 8.7%; other types of stores, 16.8%; and the remaining per cent of interviewees, 13.5%, didn't know.

Electric washing machines are standard equipment in 62% of the homes surveyed, but ownership is considerably lower in southern markets. For example, in Birmingham only 28.8% of the families own, and in Memphis, 18.4%. Conversely, in cities like Pittsburgh, Cleveland, and Columbus, present ownership is above 80%.

These findings indicate that retailers in some cities are faced with a greater problem of handling trade-in washers in connection with new sales. In Pittsburgh, where present ownership is high, 78% of all families who intend to buy a new washer will offer their old machine in trade.

Replacement demand versus new demand for washers throughout the 13 districts stacks up as follows: 37 families per 100 who now own washers will buy to replace; and 63 families per 100 who are now non-owners intend to buy for the first time.

Magazine Study Lists Brand Possibilities

Postwar buying intentions and present ownership of refrigerators by readers of Modern Magazines were recently tabulated by that concern, as follows:

Make	Present use	Expected purchase
Brand 1	22.0%	35.1%
Brand 2	14.9%	9.8%
Brand 3	10.0%	6.5%
Brand 4	8.7%	4.7%
Brand 5	7.8%	9.8%
Brand 6	7.0%	5.9%
Brand 7	6.4%	5.9%
Brand 8	3.8%	1.8%
Brand 9	2.6%	1.7%
All others	16.8%	18.8%
Total	100.0%	100.0%

Percent who own 66.1%
Percent who expect to buy 26.0%

*Includes those who are undecided.

Brand 4, a refrigerator manufactured by a mail order house concern, showed the greatest decrease in the expected purchase classification as compared to the number of present users.

How Old Are Iowa's Refrigerators?

An investment of \$25,382,150 in 177,312 electric, gas, and ice refrigerators by the people of Iowa was

predicted recently by *The Des Moines Register and Tribune* in its weekly feature, "Iowa Poll."

26% of those intending to buy electrical appliances after the war name a refrigerator as the item they need most. For city residents, the percentage is 25; for town residents, 22%; and for farm residents, 29%.

The survey further reveals that 373,633 Iowans now own electric refrigerators. When asked to give the approximate age of present appliances, those interviewed answered as follows:

Approximate age in years	Per cent of total	Number of units
2	4	14,572
4	23	88,177
6	22	81,826
8	22	81,826
10	17	63,891
15	10	37,363
20	2	5,978
Total	100	373,633

In answer to the question, "If you could buy appliances tomorrow, would you pay cash, use war bonds, or buy on payments?" the following percentages were obtained:

	Total	City	Town	Farm
Cash	62%	54%	64%	69%
Cash bonds	5	3	4	8
Payments	26	33	29	17
Don't know	7	10	3	6

When these answers are separated according to income groups, present intention to pay cash goes down with income, while the reverse is true concerning instalment buying.

Ben-Hur "Farm and Home" Freezers Are Quality Built



TO INSURE YOUR PROFIT AND PRESTIGE!

... A Line Engineered to Give You These

Outstanding Advantages to Feature:

- 1 SOUND AND DURABLE Construction — with lasting insulation, properly built in.
- 2 FULLY LABORATORY TESTED — Under Every Conceivable Operating Condition.
- 3 PRACTICAL AND EFFICIENT IN DESIGN — for Conveniently Accessible Food Storage.
- 4 ENGINEERED AND PERFECTED by Foremost Refrigeration Experts. Built for Long-lasting, Trouble-Free Operation.
- 5 A COMPLETE LINE OF SIZES — to Meet the Needs of Every Family — City or Rural.

BEN-HUR MFG. CO.

324 E. Keefe Avenue Milwaukee 12, Wisconsin
Continuous Manufacturing For Over 33 Years.

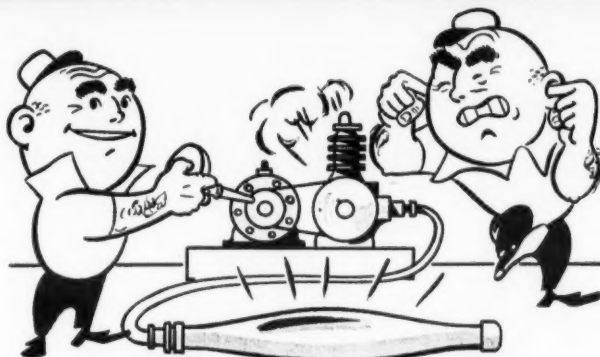
With quality features built-in and long years of sound manufacturing experience to back them up, you can be sure that your profits and your prestige will grow with every "BEN-HUR" Farm and Home Freezer you sell. Your customers will be satisfied.

Write today for "BEN-HUR" Distributorships or Dealerships now being appointed.

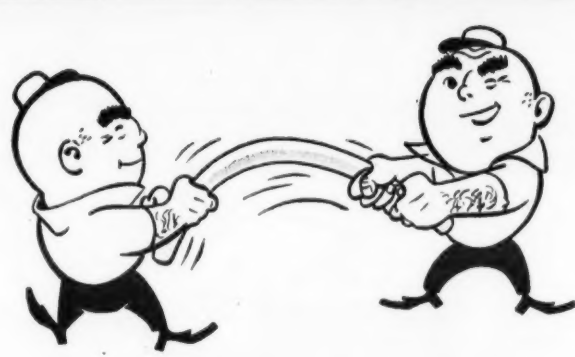
BEN-HUR

FARM & HOME FREEZERS

HOW BUNDYWELD SCORES ON ACTUAL STRENGTH TESTS



① ULTIMATE bursting strength ($\frac{1}{4}$ " x .028" annealed) of 12,500 lbs. per square inch.



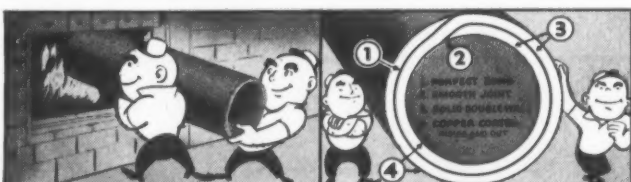
② UNUSUALLY high fatigue strength... especially recommended for use where vibration occurs.

HOW BUNDYWELD IS MADE



1 Bundyweld Tubing is made by a process entirely different from that used in making other tubing. A single strip of copper-coated S.A.E. 1010 steel is continuously rolled twice laterally...

2 ... into tubular form. Walls of uniform thickness and concentricity are assured by the use of close tolerance cold rolled strip. This double rolled strip passes through a furnace where the...



3 ... copper coating fuses and alloys with the double steel walls. After brazing and cooling, it becomes a solid double wall steel tube, copper brazed throughout 360° of wall contact...

4 ... copper coated inside and out, free from scale and closely held to dimensions. Hard or annealed in standard sizes up to $\frac{3}{8}$ " O.D. Special sizes cold drawn. Also furnished in Monel.

For further information, write Bundy Tubing Co., Detroit 13, Michigan

BUNDY TUBING



BUNDY TUBING DISTRIBUTORS AND REPRESENTATIVES:

Pacific Metals Company, Ltd.
3100 19th Street
San Francisco 10, California

Standard Tube Sales Corp.
1 Admiral Avenue
Maspeth, New York City, N. Y.

Lapham-Hickey Company
3333 W. 47th Place
Chicago 32, Illinois

Rutan & Company
112 South 16th Street
Philadelphia 2, Pennsylvania

Eagle Metals Company
3628 East Marginal Way
Seattle 4, Washington

Service Engineers Should Know...

THE PURITY OF "VIRGINIA" SULFUR DIOXIDE IS CAREFULLY GUARDED

— the content of each cylinder — large or small — is analyzed 2 separate times.



1. CLEANLINESS TEST

A measured sample drawn from each container must be water-white in color and when boiled to dryness must leave no dirt, oil or other residue. This test detects undesirable impurities.

2. MOISTURE TEST

A sample of known weight from each cylinder is passed through P_2O_5 (a desiccant). Moisture calculated by the increased weight of the tube must not exceed 50 parts per million; low moisture prevents freeze-ups and oil-sludging.

EXTRA PRECAUTIONS

To prevent any possible contamination of "Extra Dry Esotoo" every cylinder is dry cleaned and finally rinsed with pure SO_2 before filling.

Each cylinder valve is inspected and reserviced to assure trouble-free operation — this saves time and money for the service engineer.

The name "EXTRA DRY ESOTOO" on the cylinder is your guarantee of quality. Sold by refrigeration supply jobbers everywhere.

VIRGINIA Smelting Co.

WEST NORFOLK, VA.

76 BEAVER ST., NEW YORK 8 — 131 STATE ST., BOSTON 4
Agents for Kinetic's "Freon-12" — "Freon-22" — "Freon-11"

Inside Dope

By George F. Taubeneck

(Concluded from Page 1, Column 1)

lets. The Avco group is dynamic and ably managed, and is certain to be a major factor in the postwar market for household appliances. Crosley employees and its distributors and dealers will benefit from the association."

Mr. Crosley has written a letter to all minority stockholders of the Crosley Corp., advising them of the sale, and recommending their acceptance of the same offer to purchase their stock—which he has accepted—and which will be extended to them by Avco if the sale is approved by the FCC.

Big Men Needed

Avco has been feeling its way toward entrance into the lush household appliance business for almost two years. Its moves have had the indus-

try puzzled, up to now, because they have veered off in so many directions. But now, most industry sages agree, they have come up with the correct solution.

They have the men.

Avco's Topshots

Any firm, no matter how mighty, must command the services of executives with "know-how." When you're starting a-fresh in a new industry, you can sometimes make fantastic salary offers to such executives and still not be able to proselyte them.

Well, Avco has them now. Ray Crossgrove has quietly assembled, with the aid of Jim Rasmussen, a most competent, seasoned, and talented executive staff. They're all Avco's as of this writing. And they're undoubtedly worth the terrific price paid for the company.

But how about the top thinkers and planners connected with Avco, itself? Well, we have some reports for you.

With the recent acquisition of the Crosley Corp. by Avco, Irving B. Babcock, president of Avco, faces one of the biggest industrial management jobs in America.

It will be Babcock's task to direct the activities of the highly diversified and (now) augmented Avco industries, which stretch from the manufacture of ships and planes to refrigerators and radios.

Babcock, who literally "started at the bottom and worked to the top," will be "The Chief" to thousands of employees in nearly a score of communities throughout the country.

As a former office boy, timekeeper, draftsman, and departmental worker, he will have much in common with the rank-and-file employees with whom he is working in an effort to create a great, prosperous postwar enterprise.

The new president of Avco left a hard-won vice presidency at General Motors, and a place on GM's administrative committee, last February to undertake the direction of the vast

industrial properties of Avco and many of its associated companies.

In addition to his presidency of Avco, Mr. Babcock is chairman of Consolidated Vultee Aircraft Corp. (maker of the war-famed Liberator bomber and many other plane models) and chairman of American Central Mfg. Corp.

Mr. Babcock was born in Milwaukee. He attended public schools there and in Chicago.

He had planned to go to college, but was forced by economic necessity, instead, to find a job.

While serving first as office boy—then timekeeper, draftsman, and stockroom clerk in the offices of the Liquid Carbonic Co. of Chicago, he attended night courses in law at De Paul university, from which he graduated in 1916 with a degree of bachelor of laws.

A scholarship proffered by this university gave him a postgraduate course in higher accounting and business management.

In the same year, he became assistant superintendent of the Liquid Carbonic factory. (Thus he has a background in the refrigeration industry.) Shortly after completing school,

Mr. Babcock became identified with the growing automotive industry. He joined the Root and Van Dervoort Engineering Co. (an automobile engine manufacturing company) as comptroller.

In 1920, he entered the John D. Hertz organization in Chicago as comptroller and, later, treasurer.

He went with General Motors when that firm purchased the Yellow Cab Co. in 1925—becoming president of that concern 10 years later.

When Mr. Babcock joined Avco on Dec. 28, 1944, he resigned as president of the Yellow Truck & Coach Mfg. Co., and as vice president of General Motors.

Mr. Babcock's war activities include directorships in the Automotive Council for War Production, Motor Truck Industry Advisory Committee, Bus Manufacturing Industry Advisory Committee, and the Automotive Farm and Tractor Liquid Cooled Engine Industry Advisory Committee.

He is 53, married, and the father of three children.

Victor Emanuel

Victor Emanuel, chairman of the board, of the Aviation Corp., believes in meeting economic emergencies boldly.

Instead of accepting war production cut-backs as an inevitable end to large scale operations of his company, he has planned a diversification program for Avco with a view toward retaining the highest possible post-war employment and business volume.

As one of America's acknowledged leaders in developing America's strength in the air, Mr. Emanuel believes that some part of the enormous productive capacity of the aviation industry can be made to create prosperity in peacetime.

Mr. Emanuel's interest in aviation began when he served in the U. S. Navy Flying Corps during the First World War.

Later, with a group of associates, he purchased a controlling interest in the Cord Corp., which led to the amalgamation of several firms specializing in transportation into The Aviation Corp., in 1941.

During 1944, The Aviation Corp. and associated companies delivered to Uncle Sam \$1,233,000,000 worth of war products—ranging from four-engine bombers, other airplane types, cruisers, aircraft carriers, aircraft engines, propeller blades, jeep and truck sections, and "secret" specialized war materials.

Mr. Emanuel was born in Dayton, where he attended public schools and St. Mary's College (which is now the University of Dayton). He also studied at Cornell University.

He is a university trustee of both Dayton and Cornell.

He is 47, married, and the father of two children—the elder of whom is serving as a lieutenant in the U. S. Army.

He strongly believes that organized labor, agriculture, and industry must work together in close unison if they are to retain the obvious benefits of the American way of life after the war.

An interesting portion of his business philosophy is summed up in his 1944 annual report to Avco stockholders, which reads:

"Certainly only by statesmanlike and realistic approaches to the economic problems confronting us can the nation hope to meet postwar problems of reconversion and employment.

"In the belief that enterprise in America will be allowed to live and breathe after the war, The Aviation Corp.'s manufacturing units, and those of its associated companies, are drafting programs which—we hope—will allow them to function progressively when victory is won."

FOOD MUST BE CONSERVED

Refrigeration today is performing a vital service by guarding and preserving for future use, priceless food which might otherwise be wasted. Write for literature.

GENERAL REFRIGERATION DIVISION

Yates-American Machine Co. Beloit, Wis.

Apply for background and training held strictly confidential.

SEE AIR REFRIGERATION

NOTICE!

IMMEDIATE DELIVERY AT

NEW LOW PRICES

JOBBERs and DEALERs!
Handle the money-making AMCOIL line in your area. Write today for details of our attractive line of cooling units—a few localities are still open to qualified jobbers.

A RARE COMBINATION

The highest quality at Lowest prices

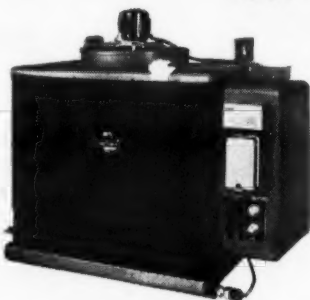
Improved manufacturing methods and automatic machinery have enabled us to reduce prices on all Amcoil units.

Prices effective as of April 1, 1945 and supersede all previous lists. They are subject to change without notice.

COMPARE OUR QUALITY—DESIGN—NEW INVENTIONS—IMMEDIATE DELIVERY

FOOD CONDITIONER COOLING UNIT

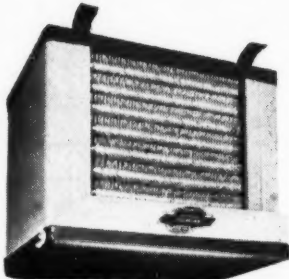
Automatically preserves foods without dehydration. Temperatures from 36° to 40° F. For reach-in and walk-in coolers.



MODEL	BTU/HR 15" MTD	LIST PRICE
RIF 38	4,600	\$270.00
RIF 43	5,500	283.00
OCF 56	6,500	290.00
OCF 82	9,200	323.00
OCF 126	13,000	550.00
OCF 166	19,500	590.00
FC 50	7,500	333.00
FC 80	11,300	378.00
FC 130	17,000	601.00
FC 160	22,600	641.00

ALSERVICE OPEN FACE UNIT

For efficient cooling and serves as a general utility unit in preserving foods where a forced draft cooling unit is required. Streamlined, in attractive grey and black colors, it produces temperatures down to 36° F.



MODEL	BTU/HR 15" MTD	LIST PRICE
OC 44	4,000	\$120.00
OC 48	5,100	148.00
OC 58	7,500	161.00
OC 84	11,000	210.00
OC 128	15,500	322.00
OC 168	23,000	370.00

ZERO-BREEZE LOW TEMP UNIT

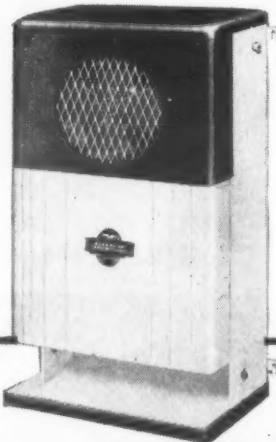
A low temperature unit equipped with automatic electric defrost . . . wall-mounted model . . . produces temperatures from +20° F. to -20° F. . . defrosts automatically on each off-cycle of condensing unit.



MODEL	BTU/HR 10" MTD	LIST PRICE
RZB 60	3,900	\$325.00
ZB 120	7,250	425.00
ZB 150	11,000	615.00
ZB 180	14,500	655.00

ALSERVICE REACH-IN PANEL UNIT

A compact cooling unit for all utility refrigeration applications. Designed to meet a growing demand for medium capacity units to balance condensing units of 1/4, 1/2, 3/4 or 1 HP. Especially adapted for reach-in and small walk-in boxes.



MODEL	BTU/HR 15" MTD	LIST PRICE
RI 15	2,000	\$ 94.00
RI 25	2,250	99.00
RI 30	3,000	114.00
RI 40	5,250	149.00
RI 45	6,150	169.00

ALSERVICE DOWN-DRAFT UNIT

An efficient, down-draft cooling unit employing new ideas in refrigeration. . . May be converted to controlled humidity Food Conditioner by adding the control assembly package.



MODEL	BTU/HR 15" MTD	LIST PRICE
UC 63	8,000	\$211.00
UC 100	12,500	261.00
UC 123	17,500	477.00
UC 200	24,000	517.00

Bigger Profits for you and Greater Profits for the user with the Amcoil Food Conditioner. Now available in three different models.

LICENSED UNDER

Grant Color Patents
Patent Pending

MANUFACTURER'S REPRESENTATIVES

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J. E. Oliphant & Co., 505 Uhler Bldg., Marion, Ohio
Richard Barthelme Sales Co., 1711 Challen Ave., Jacksonville, Fla.
F. M. Eversden & Associates, 220 So. 16th St., Philadelphia 2, Pa.
Jardy Engineering Co., Inc., 813 Howard Ave., New Orleans 13, La.
P. J. Burrill, 800 North Clark St., Chicago, Ill.
Robbins-Greenwood Co., 3104 Main St., Houston 4, Texas
The Mac Silver Co., 114 No. Sweetzer Ave., Los Angeles 36, Calif.

William D. Keefe, Chaffee, N. Y.

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Cable Address—AMCOIL



Henry Kaiser's 'Mass Produced' Homes Will Have 'Factory Fabricated' Utility Center

SAN FRANCISCO — Henry J. Kaiser, wizard shipbuilder of the West Coast, has formed a new corporation to build "complete communities" of "mass produced" air conditioned homes.

Mr. Kaiser declared that the new corporation expected to put up two and three bedroom homes on large, attractively landscaped lots, at a price that would be under \$5,000.

These homes are to be built by representative contractors' all over the country under contract with the Kaiser Community Homes Corp., in which the shipbuilder is associated with Fritz B. Burns of Los Angeles, permanent honorary president of the National Association of Home Builders. The company will have \$5 million capital, it was said.

Under the program, the corporation will acquire land and develop it for homesite layouts, obtain the necessary materials and manufactured components, provide all designs, establish and maintain rigid specifications and high standards of construction, and market the homes to the public.

Land has already been purchased for the first 10,000 homes in West Coast communities, and these, according to plans, will be built this year. Part of the company's plan is to develop communities that would have an average of 500 homes, with recreation facilities, medical and dental clinic, school, and commercial center.

The original announcement of the

plan did not specify how complete the "air conditioning" would be. It was said that the solar principle of heating would be used where adaptable, and that, at an extra cost of around \$150, electronic air cleaners would be provided "to kill germs and eliminate hay fever pollen."

It was further said that although the homes are not to be "prefabricated," two of the rooms, the kitchen and the bathroom, would be built as units at a factory and shipped to the building site.

The kitchen will have a hydraulic dishwasher, and the bathroom with a turret-type rotating shower.

Officials of Kaiser Community Homes told AIR CONDITIONING & REFRIGERATION NEWS that no more information on the exact nature of the equipment to be installed would be given out until the first projects are actually started. They would not comment on rumors that some

of the leading appliance manufacturers might fabricate the utility centers for the Kaiser homes.)

Mr. Burns said that the down payment on the houses will be \$100 to \$200 a month, and total carrying charges less than \$30 a month. It is further planned to include health insurance in the charges.

Declaring that the country would need 2 million new dwelling units in the years immediately after the war, Mr. Kaiser said that he believed home building can do more than the automobile for the postwar economy of the country, and declared that 20% of the total employment might be in home building and allied industries.

When Mr. Burns pointed out that the steel frames for a house could be put up in an hour on somewhat of an "erector set" basis, the question was naturally put as to whether the man who set speed records in building ships expected to erect a house in a day.

Mr. Burns answered this question by saying that it will take 45 days to build the houses, to which Mr. Kaiser remarked—

"He's conservative."

Brewer-Titchner Co. Produces Home Freezers For Distribution Through Parts Jobbing Firms

Will Be Furnished With or Without Condensing Unit

BINGHAMTON, N. Y.—Introduction of a three-model line of chest-type home and farm freezers to be distributed through refrigeration parts jobbers has been announced by C. H. Beane, chief engineer, refrigeration division, Brewer-Titchner Co. here.

Containing both storage space and a sharp freeze compartment, the freezer line will be available in three sizes—12½ cu. ft., 18 cu. ft., and 23 cu. ft.—with prices starting above \$600 for the smallest unit, Mr. Beane said.

The 12½-cu. ft. model has 10 cu. ft. of storage space to be held at 0° F., and 2½ cu. ft. of freezer space held at -10° F. Temperature control is taken off the freezer compartment to insure a constant -10° F. during food processing, the company says.

There are three doors on the 12½-cu. ft. model, one for the freezer,

and two for the storage compartment, the doors being fitted with latches which can be padlocked.

Cabinets have a metalized finish and will be powered by Kelvinator condensing units of ¼, ½, or ¾-hp. capacity, unless the jobber desires to install a condensing unit of his own selection.

Condensing units are mounted on a slide-out frame beneath the sharp freeze compartment, making for easy installation and servicing, the company claims. A removable side panel on the cabinet exposes the expansion valve and heat exchanger.

Seven parts jobbers have already signed up as distributors for the freezer line, the company reports, with the plan of wholesaling the freezers to service men and dealers. Jobbers will not be responsible for service under this arrangement, explains the company.

Commercial REFRIGERATION

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- COOLERS
- REFRIGERATORS
- HOME FREEZERS

AMANA SOCIETY
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Cafeteria Type

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PACKAGED Remote and Cabinet Models
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For all applications
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Write for Details

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TERRITORY REPRESENTATIVE WANTED

A permanent position with excellent future is available now. Large Los Angeles manufacturer is seeking territory representative to set up dealers to handle sales of commercial refrigerator line such as display and self-service cases, (sectional) walk-in coolers, reach-in cabinets, full soda fountain line and food units, beverage coolers, refrigerated candy cases and bakery cases.

Territory open: Nebraska, Kansas, Colorado, Missouri.

Worth while proposition for the right man.

Apply giving full references, background, history, experience and training in detail. Reply held strictly confidential.

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These nationwide **"FREON"** advertising campaigns

help sell air conditioning and refrigeration

Year after year powerful "FREON" advertising campaigns appear in leading publications read by architects, engineers, food manufacturers, locker plant operators, business executives, store owners and the general public. These campaigns do an important job of selling.

In **TIME**—the weekly news-magazine—"FREON" advertising reaches more than 2 million men and women in all kinds of businesses and industries.

In **ARCHITECTURAL FORUM**, **ARCHITECTURAL RECORD** and **PENCIL POINTS**, another "FREON" campaign features air conditioning installations in buildings that have been planned for the future. These messages provide architects and engineers with ammunition to sell modern systems to their own clients.

In **FOOD INDUSTRIES**—a leading periodical catering to food manufacturers—more "FREON" advertising stresses the benefits and value of air conditioning and refrigerating systems to many different types of food processors.

In **QUICK FROZEN FOODS**, a series of "FREON" advertisements shows outstanding locker plants in various sections of the country. Operators are being made conscious of the advantages of modern equipment and "FREON" refrigerants.

All this advertising is aimed at helping to sell more air conditioning and refrigeration... it's helping to build business for you. For complete information about "FREON" safe refrigerants, write: Kinetic Chemicals, Inc., Tenth and Market Streets, Wilmington, Delaware.

SAVE WASTE PAPER—VITAL TO WAR

KINETIC

More **"FREON"** now available

Today "Freon" safe refrigerants are again available for comfort cooling and other uses. Systems which have been temporarily using wartime substitutes may now be reconverted to "Freon" safe refrigerants.

FREON safe refrigerants

"Freon" is Kinetic's registered trade mark for its fluorine refrigerants.

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Leading manufacturer of refrigeration and air conditioning heat exchanger equipment needs several men versatile in handling the engineering, design, and assembly of refrigeration products. Write, giving age, experience, and salary expected. Our employees know of this ad. Box 1752, Air Conditioning & Refrigeration News.

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Two Big Warehouses
to Serve You

134 Lafayette St.
New York, 13, N.Y.

Pricing Formula Set On Frigidaire Parts

DAYTON, Ohio—Approval of a special pricing formula has been granted by OPA to Frigidaire Division, General Motors Corp., to establish prices for sales to distributors, dealers, and consumers.

Items affected include parts and sub-assemblies for which maximum prices had not previously been established, and parts and sub-assemblies which were not heretofore available to distributors, dealers, and consumers as parts and sub-assemblies, OPA announced.

The pricing formula, which OPA has not revealed, was outlined in a letter to OPA from Frigidaire dated March 12, 1945, on file with the Building Materials Price Branch, OPA, Washington, D. C.

Frigidaire is required to notify its distributors and dealers of the price ceilings, and to report its maximum prices in dollars and cents as derived from the formula to OPA within 30 days of computing said prices.

Rumpsa To Direct Purchases For Young

RACINE, Wis.—J. A. Rumpsa has been appointed director of purchases for the Young Radiator Co.

Mr. Rumpsa completed an academic course at DePaul, Chicago, and later accepted the position of assistant purchasing agent for the Illinois Malleable Iron Co. After moving to California to go into business for himself, in 1929 he joined the staff of the purchasing department of the Caterpillar Tractor Co.

San Diego Dealers Reveal Worry and Confusion Over Terms, Builder Sales

SAN DIEGO, Calif.—Members of the West Coast Bureau of Radio and Electrical Appliances heard discussions of term selling of appliances, 25-year FHA appliance financing, and the television outlook postwar at their annual spring conference held here last month.

"I see great advantage in the protection afforded by Regulation W, and I hope that this type of credit control will be continued for a time, at least," said Charles R. Goff, vice president and treasurer of the Walker-Scott Corp., in his presentation of the general problem of future appliance financing.

Selling on terms, so commonplace before the war, is a problem that can be controlled by proper training of sales personnel, he continued. Recognizing a need for flexible term arrangements, Mr. Goff felt, however, that in the past much better terms could have been sold, had the salesman used greater finesse and judgment.

He also expressed the belief that financing competition could be offered by certain war-rich persons who might turn to the appliance financing field as a means of employing their capital. However, dealers, Mr. Goff concluded, would do well to remain with established agencies for the financing of consumer paper.

"Banks will be in the field aggressively competing for dealer appliance paper throughout the nation," said Andy Borthwick of the First National Bank in his talk on appliance financing. "On the Pacific Coast, particularly in southern California," he added, "this type of service will be available to dealers everywhere, no matter how small their communities."

Mr. Borthwick predicted a rate of not more than 5% as against the uniform prewar rate of 6% for standard dealer appliance paper. In his opinion, the keen competition bound to develop between banks and national financing organizations

would provide a more attractive type of service to the dealer.

Manufacturers and their representatives, with but a couple of exceptions, were unable to declare just where they stood in regard to the point of whether they might sell appliances direct to speculative builders. The question was raised during a two man discussion of the proposal that major appliances be included in 25 year FHA mortgage by Paul Du Pont of Walkers and Gordon McNary, San Diego Trust Savings Bank officer.

It was decided that there should be no valid objection to the idea of qualified home builders and purchasers obtaining appliances as part of the original cost of the house, but that the proposal constituted a direct threat to established retail dealers through possible large scale sale of appliances by the manufacturer direct to the builder.

Just what course manufacturers and the industry in general should take in relation to the promotion of television postwar was the subject discussed by Dr. Lee de Forest, noted scientist in the radionic field.

While Dr. de Forest agreed with most experts that, despite certain economic drawbacks, a tremendous popularity for television can be expected, he disagreed with the generally accepted viewpoint that purchase of "good television receivers" will be in a volume sufficient to warrant the broadcasting of suitable programs, since the purchase price will be impractical for millions. "If we are to avoid the wholesale acquisition of cheap receivers which would give unsatisfactory performance and thus retard the industry it will be necessary for dealers under some form of subsidy by manufacturers, to merchandise good receivers on a rental basis," declared Dr. de Forest.

Television sets having large enough screens to eliminate eye fatigue will retail at \$250, he prophesied.

Associated Distributors Formed In Indianapolis

INDIANAPOLIS—Associated Distributors, a new appliance distributorship for central Indiana and eastern Illinois, dealing in wholesale major and traffic building appliances, has been opened with headquarters at 211 South Illinois St. here, according to Harley Litteral, general manager.

Department managers of the new concern include: Don Delbrook, appliance sales; J. H. Kerchhoff, service; Carl "Bud" Harper, record; and Robert P. Purves, accounting.

At present, the company is exclusive RCA Victor distributor for 41 counties, handling RCA Victor radios, phonograph combinations, tubes, parts, Victor and Bluebird records, and accessories; and is a franchise distributor for Proctor Electric Co., as well as Freez-all Home Freezer cabinets and Cadillac vacuum cleaners.

Associated Distributors plans to cover the complete appliance field.

Begy Establishes Own Company In Buffalo

BUFFALO—T. Philip Begy, who recently resigned as the local factory representative of General Electric Co., has formed Mutual Appliance Distributors here to distribute electrical appliances. A building at 122 Clinton St. has been purchased to house offices, sample rooms, and warehouse.

The firm now has franchises for Majestic radios and records, and L. & H. gas and electric ranges, and expects to add other lines.

Woolwerth Joins Staff of Viking Air Conditioning

CLEVELAND—Mark M. Woolwerth has been appointed to the advertising and sales promotion department of Viking Air Conditioning Corp. here, president Marion I. Lev recently announced.

Mr. Woolwerth was formerly connected with the Associated Press in New York.

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Redmond

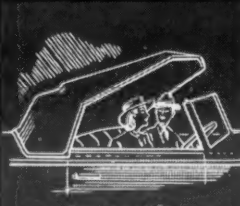
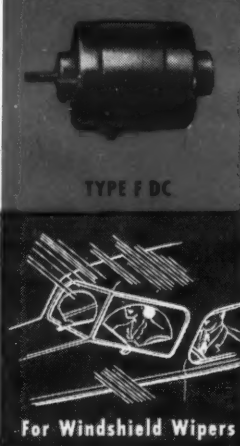
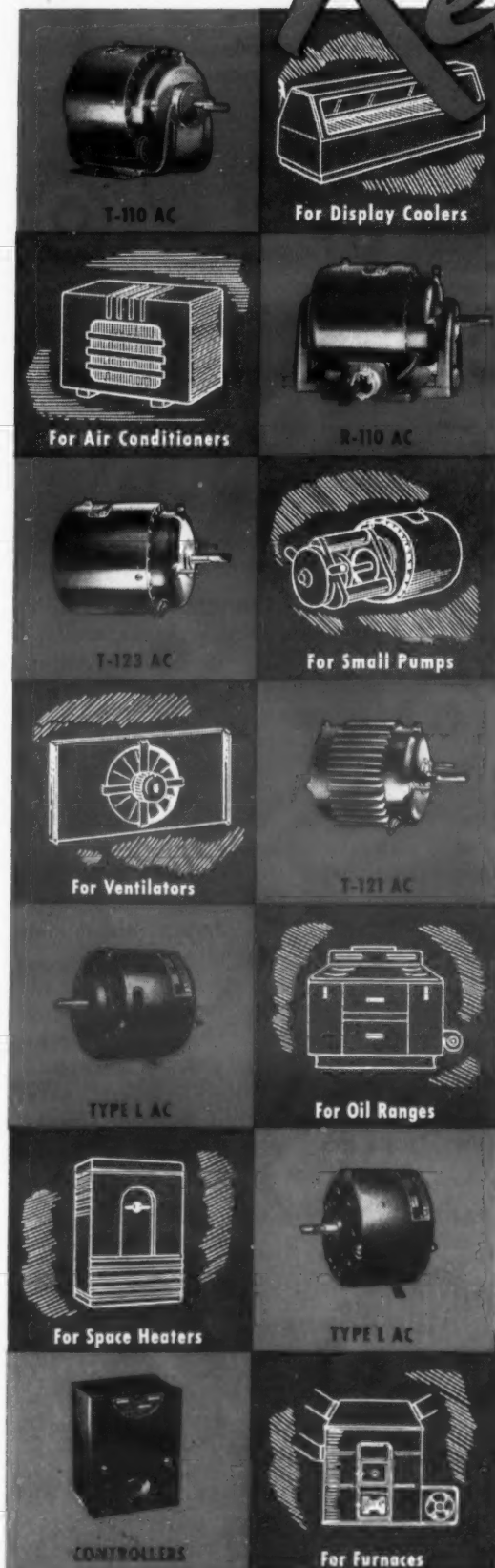
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Shaded Pole AC Micromotors are built in sizes up to 1/25th hp. for continuous duty, and light weight DC types up to 1/20th hp.

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FORCED CONVECTION UNITS
PIPE COILS

Write for Catalog on any item.

Maj. Hansel Found Refrigeration Doing Many Jobs in Pacific Area

McQuay Outlines Plans on Products

Filtrine President, Returning From Duty in Marine Corps, Tells of Problems

NEW YORK CITY—Major Charles Hansel, USMC, is back at his desk as president of Filtrine Mfg. Co. Major Hansel is a veteran of both World Wars. He came out of the first in 1918 a first lieutenant in the Marine Corps. Two months after Pearl Harbor he was in again, this time a captain.

He got into overseas action at Guadalcanal in July, 1943—but too late to get his teeth into anything. But he was in on the invasions of Bougainville (Nov. 1), Green Island (Feb. 15, 1944), and Emmerau (March 15), as CO of the headquarters squadron of the 1st Marine Air Wing. He returned to civilian life just a few days ago, on June 5.

An oldtimer in the refrigeration industry, the Major would always take a second look at refrigeration problems he saw in the South Pacific.

The variety of different makes, unmatched parts, and varying refrigerants that found themselves assembled into a working unit was something to see, he says. Refrigeration maintenance men working under the terrific conditions of heat and humidity deserved special medals, the Major believes. They had to be something less than Masters of the Makeshift.

There was an eternal shortage of copper tubing, he recalls, with connectors and couplings at a premium. Any unit that broke down was immediately discussed by a court martial. If the verdict was "Not fixable," in five minutes the unit would be picked skeleton clean of every copper piece.

Operating conditions were consistently grueling for even the best of machinery, the Major points out. Refrigeration systems were especially handicapped, equipped as they were with compressors that were never meant to work against temperatures sweating steadily over the 100° F. mark.

Excessive wear and breakdown were impossible to prevent. The

problem became one of just keeping the units running from one day to the next.

Both gas and electric units were in evidence, he reports. Gas units most often in the advance positions, the big electric units following as soon as generators and power lines could be set up. And every once in a while he'd run into a familiar household box sitting under a palm-thatched roof, holding a case of beer.

Water coolers, an item right up the Major's alley, he found used in film developers, in making bakery dough, and in local setups for bottling beverages.

On that last angle, he mentions, the high point of the Guadal campaign as far as the GI's were concerned was the capture of the Japs' ice plant there. The doughboys never forget what they're fighting for at home, the Major says soberly, but when a fighting man is able to push back his helmet with one hand and lift a cold glass of suds with the other, he remembers it that much more distinctly.

Water to be mixed into baker's dough had to be held down to 34° F. or the bread would start to rise before it hit the ovens, he states. That was a tough assignment all around, leaving almost no time at all for mixing it in. Not only working at top speed, but dipping your mitts into ice water while the rest of you is sending off 212° steam confuses the sterno-thermal. Naturally!

Upon his return to civilian life, the Major found his own company doing considerably more capacity work than before the war. Postwar directions will move especially toward low-temperature packaged units, he said.

They have substantial background experience to work from. Filtrine was incorporated in 1905, and as far as the Major knows, they were the first to apply electric refrigeration to water coolers for offices, theaters, and cafes. That was about 1925.

MINNEAPOLIS — Postwar plans as revealed by McQuay, Inc. include the manufacture of the same type of heat transfer units, unit coolers, and air conditioning coils produced before the war. The company expects a large export market for small heat transfer units operating at 9750 B.t.u. per hour.

Also to be manufactured are ice makers, refrigeration coils, and cooling units for reach-ins, as well as the Icy-flo accumulator unit which the company introduced just prewar, for use in installations requiring inconstant but peak-load air conditioning.

Because of increased space requirements, the company has recently converted the warehouse across the street from the main building into a second plant. Here are located additional offices, as well as production and assembly lines for military manufacture.

Executives of the company revealed that some civilian orders are now being filled, largely under priority, but that many unrated orders are being received.

The company could be in full production under six months, after WPB limitations are cancelled, they said. Some regular products will be produced by June.

Among war-production items manufactured at McQuay were the auxiliary gas drums installed in the planes used in Gen. Doolittle's bombing raid on Tokyo early in the war.

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protect Coils, Condensers, Compressors, Valves and Dehydrators by picking oil out of the refrigerant stream and AUTOMATICALLY returning this oil to its proper place, the crankcase.

Now that replacements are hard, almost impossible to get, those charged with the responsibility of maintaining existing equipment are looking for longer operative life and reduced operating costs.

Aminco Oil Separators protect compressors by maintaining correct oil level in crankcase and by excluding oil from refrigerant stream they enable coils, condensers, valves and dehydrators to function most efficiently.

These oil separators are made for jobs from 1/4 H.P. to 120 tons and are used everywhere, ashore or afloat, where efficient refrigeration is desired.

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Ansul was first in America to produce Sulfur Dioxide for refrigeration (1915).

At the demand of the growing fractional-tonnage household refrigeration industry, Ansul began production of Methyl Chloride.

Ansul still analyzes individually every cylinder before it is shipped because—

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If you want to alter the capacity of an Alco "TK" THERMO Valve—just screw the little discharge tube into the outlet... presto! No special tools needed. Only one size valve instead of three to carry in stock—and to the job. An Alco "TK" Valve is actually three valves in one. See your Alco jobber.

VARIATIONS	NOMINAL CAPACITY IN TONS	
	METHYL CHLORIDE	"FREON-12"
1. Without tube	2.30	1.15
2. With "O" tube	1.00	.50
3. With "OO" tube52	.25

Their simple construction assures longer trouble-free service • Fewer parts • Atomic-welded diaphragm—no leaks • Extra-large built-in strainer.

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'Store on Wheels' Would Merchandise Appliances as Well as Groceries

SAN FRANCISCO — "Store to Door on Wheels," a method of food retailing that will place a mobile grocery store within a block of every residence, is planned here by Associated Food Distributors, Inc., according to George L. Riccomi, president.

The vehicles that would be used would contain two refrigerated storage compartments, one for normal refrigerator storage and one for low temperature storage.

Under this new food distribution system, a fleet of 60-foot streamlined mobile "stores" will radiate from strategically located district stores, covering entire residential areas three times a week.

PLAN OF SELLING

Manned by a crew of nine, the traveling grocery store will park at an intersection while eight salesmen, each equipped with a rubber-tired conveyor, will cover the district, delivering food staples such as bread, butter, eggs, and milk directly from the stock of his conveyor.

Salesmen will also take orders for other food items which will be flashed back via short-wave radio to the "store on wheels." Orders will be filled from stocks of fresh, frozen, and packaged foods, and delivery will be made immediately by motorcycle to the waiting salesman.

Current plans of Associated Food Distributors also include the distribution of household appliances such as refrigerators, freezing units, electric

stoves, radios, and washing machines. Orders for these items will be taken by the store-to-door salesmen. Dry cleaning and laundry will also be picked up and delivered.

The store-to-door truck carries the conveyors, and is divided into four compartments — refrigerator, frozen foods, vegetables, and grocery shelves. The trailer has four compartments — one for storage, one for special orders, and one each for dry cleaning and laundry.

Based on associated ownership, all employees will own stock in the companies. As the system expands, Mr. Riccomi predicts, it will provide more and more business opportunities for returning veterans and enables them to set up in business for themselves.

EXPECT WAR VETERANS

It is estimated that 75% of the members will be discharged veterans who will use the loans they are entitled to under the G.I. Bill of Rights to buy partnerships in the enterprise. The remaining 25% of active personnel will be made up of former independent operators and others.

A national truck organization, after studying this plan, offered to furnish the trucking equipment complete on a mileage basis, promoters say.

Mr. Riccomi points out that the enterprise is not a postwar proposition, since the initial operation will get under way in the San Francisco Bay area as soon as equipment is available.

New Method Improves Frozen Orange Juice

NEW YORK CITY — Tins holding six ounces of condensed, quick-frozen orange juice are being sold by Carl E. Seaburgh, head of three Westchester County shops — the Frostar Frozen Food Centers.

When mixed with the right proportions of water, the six ounces provide 24 ounces of ordinary juice. On the basis of the present cost — 45 cents for a tin of the concentrate — a four ounce serving comes to about 7½ cents.

The process followed in condensing and freezing is one worked out by the Florida Citrus Commission, according to Mr. Seaburgh. Although much research has been done on the development of the method, the Frostar stores, which are entirely devoted to frozen products, are the only ones in the country as yet to offer the concentrate at retail.

Tree-ripened fruits are used, and tests by the Florida Experiment Station show that even after 22 months the juice, when kept at a zero temperature, retains 85% of its original vitamins and shows no loss in flavor or color.

Mr. Seaburgh's establishment in White Plains claims to be the first successful one in the country to sell nothing but frozen products. The shops, which normally carry 70 different items, are considered by many merchandisers to be forerunners of a kind of retail outlet that is expected to become more common.

Most consumers will have to be educated to the appreciation of the virtues and advantages of quick-freezing, Mr. Seaburgh declares.

G-E's Movie Promotes Better Freezing Methods

CINCINNATI — "How to produce good results with garden vegetables and meats" was the keynote of a series of meetings recently held by the Cincinnati General Electric Appliance Distributing Branch according to Paul C. Wilmore, manager.

The Cincinnati Premiere of "Frozen Foods," General Electric's new colored motion picture was held June 14, at the Cincinnati Gas & Electric Co.'s Auditorium. Operators of locker plants were in attendance, as well as interested public utility executives. Home Economic heads of the Cincinnati and Miami Universities, and the Cincinnati public schools, plus leading Cincinnati G.E. merchandisers.

General Electric produced the film, "Frozen Foods" primarily for consumer use . . . to show the process necessary to produce good results with home freezers. The point "not to oversell the care of processing frozen foods" was made. This was done objectively to lay the ground work with interested organizations.

New Frozen Foods Plant In Tennessee

KNOXVILLE, Tenn. — The Winter Garden Co. of Knoxville, Tenn., has leased a building from the Bells Chamber of Commerce at Bells, Tenn., and will use it in quick freezing of fruits and vegetables. The lease is for a five-year period with a privilege of renewing it for 20 additional years.

Survey Indicates Home Freezing To Continue Postwar

SAN FRANCISCO — An indication that manufacturers of frozen food cabinets anticipate a continuation of home freezing in volume in the postwar period is found in a survey conducted by *Good Packaging* magazine of San Francisco and presented in the April issue. This is contrary to the popular belief held in frozen food trade channels that termination of the war emergency would considerably reduce the volume of home freezing.

In the article, which is based on reports made to the magazine by cabinet manufacturers, the authors — H. C. Diehl, director of the Refrigeration Research Foundation, Berkeley, Calif., and Nelson H. Budd, *Good Packaging* editor, disclose that a majority of domestic cabinets now in blueprint for postwar markets will be built for freezing purposes and not solely for holding commercially packaged frozen foods in the home.

The authors warn that if home freezing is encouraged it must be safeguarded by an educational campaign "to instruct housewives persistently and in detail in the art of freezing foods in home cabinets."

Other highlights of the survey are (1) a call for an exchange of ideas and for cooperation in postwar planning by all factors in the frozen foods industry — cabinet manufacturers, container manufacturers, brokers, distributors, retailers, and packers;

(2) disclosure that the burden of achieving perfect packaging for frozen foods will rest with container manufacturers and packers;

(3) indication of continued use of the familiar rectangular package for these products;

(4) greater emphasis on eye-appeal of commercial packages since a majority of the new display cabinets in stores will be built so that the shopper can see the package at a glance and

(5) a more pronounced trend to top-access cabinets rather than side-access in the retail stores.



VICTOR CHEST TYPE Refrigerators will be produced in three sizes: Model Q4510 with 10½ cubic foot capacity; Model Q4518 with 18½ cubic foot capacity (illustrated above); and Model Q4526 with 26 cubic foot capacity.

VICTOR VERTICAL TYPE Refrigerators, Model Q4550 with 50 cubic foot capacity, having two reach-in doors. This model is furnished with or without pre-chill walk-in refrigerator of sizes ranging from approximately 150 cubic foot up.

WRITE FOR LITERATURE

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Walk-In, Beer Dispensing and Beverage Coolers
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Vilter's New 'Non-Profit' Setup May Meet Test on Matter of Income Tax

MILWAUKEE—The Vilter Mfg. Co., control of which on June 14 passed to a group of executives who will operate it as a "non-profit" corporation, may provide a test of whether such a manufacturing enterprise may by such operation escape the payment of Federal income taxes.

A spokesman for the company said, "It was assumed that after May 21, when the final incorporation change was started, that income of the firm was tax free." He said that this prediction was based on decisions made in New York courts on similar companies, including one declaring the Eugene V. Debs radio station tax exempt, although it sells commercial programs.

Local income tax authorities, however, said that they do not see how a company continuing to engage in manufacturing is entitled to tax exemption. A decision on the matter will probably not be made until after the new organization files its first return.

In its plan of operation as a non-profit, non-stock organization, the Vilter Mfg. Co. would use its net income to set up an employee pension system, free from employee contribution, and for unemployment compensation. Net income would also be used to further research in air conditioning at universities, and "for the benefit of the whole industry and the common good."

Earle B. Tilton, president of the company, asserted that the company would not use tax exemption to undercut competitors, nor for any purpose other than research, scholarships, employee benefits, and similar efforts.

The moves by which the company passed into the control of the employee executives were rather complicated, but the main events were these:

Foundation, Inc., was formed April 27 by Leon F. Foley, Joseph E. Rapkin, and Ronald A. Drechsler, all identified with Miller, Mack & Fairchild, attorneys for the Vilters. Foundation, Inc., was to be a non-stock, nonprofit corporation to acquire the assets of the Vilter Co. and to devote net income to charity.

Later the articles of association of the Vilter Mfg. Co., themselves, were amended and the company superseded Foundation, Inc., to do business along the same charitable lines as Foundation, Inc., with the lawyers holding executive positions.

Then, in the move consummated June 14, the lawyers relinquished their holdings to the employee executives, and the company will be operated by them under its amended charter.

The new officers of the company are:

President, treasurer, and general manager, Earle B. Tilton. He was formerly executive vice president, treasurer, and general manager.

Vice president, A. A. Silverman. He was formerly with the treasurer's office of the Hansen Glove Corp., Milwaukee.

Secretary, Ludwig E. Loos, chief engineer of the firm.

Assistant secretary-treasurer, M. F. Grady, controller.

These men, with W. L. Nahin, general sales manager, are the members of the corporation and of the board of directors.

The company has been manufacturing 105 millimeter cannon for the Army, but it is understood that work on this contract will end about Aug.

1. It has orders for refrigeration equipment for the Navy which will carry on throughout the year.

As many workers as possible will be transferred to refrigeration manufacturing operations as government orders diminish.

Order Affects Repairmen

WASHINGTON, D. C.—Refrigeration repairmen who order materials for emergency servicing of industrial and commercial refrigerating and air conditioning systems with the MRO symbol under provisions of Order P-126 no longer have to designate the quarter in which the material is to be used, according to Interpretation 25 to CMP Reg. 1 as amended recently, announces WPB.

Such authorized controlled materials orders, however, still must bear a delivery date, WPB advises.

OPA Surveying Radio Parts Field on Prices

WASHINGTON, D. C.—A cost survey questionnaire to be sent to radio parts manufacturers, for purposes of gathering basic data needed to establish reconversion ceiling prices for radio parts, has been drawn up by OPA officials and a group of accountants from the industry.

The OPA reconversion price formula will not require price setting on each individual item sold by a parts manufacturer, industry representatives point out, but can be calculated on a flat percentage basis either for a company's over-all products or for the products of one of its divisions.

The investigation of cost increases will require weeks of work. A meeting of the Radio Receiver Tube Manufacturers Industry Advisory Committee then can follow, OPA officials report.

Prices of domestic sets will depend largely upon the resulting parts prices.

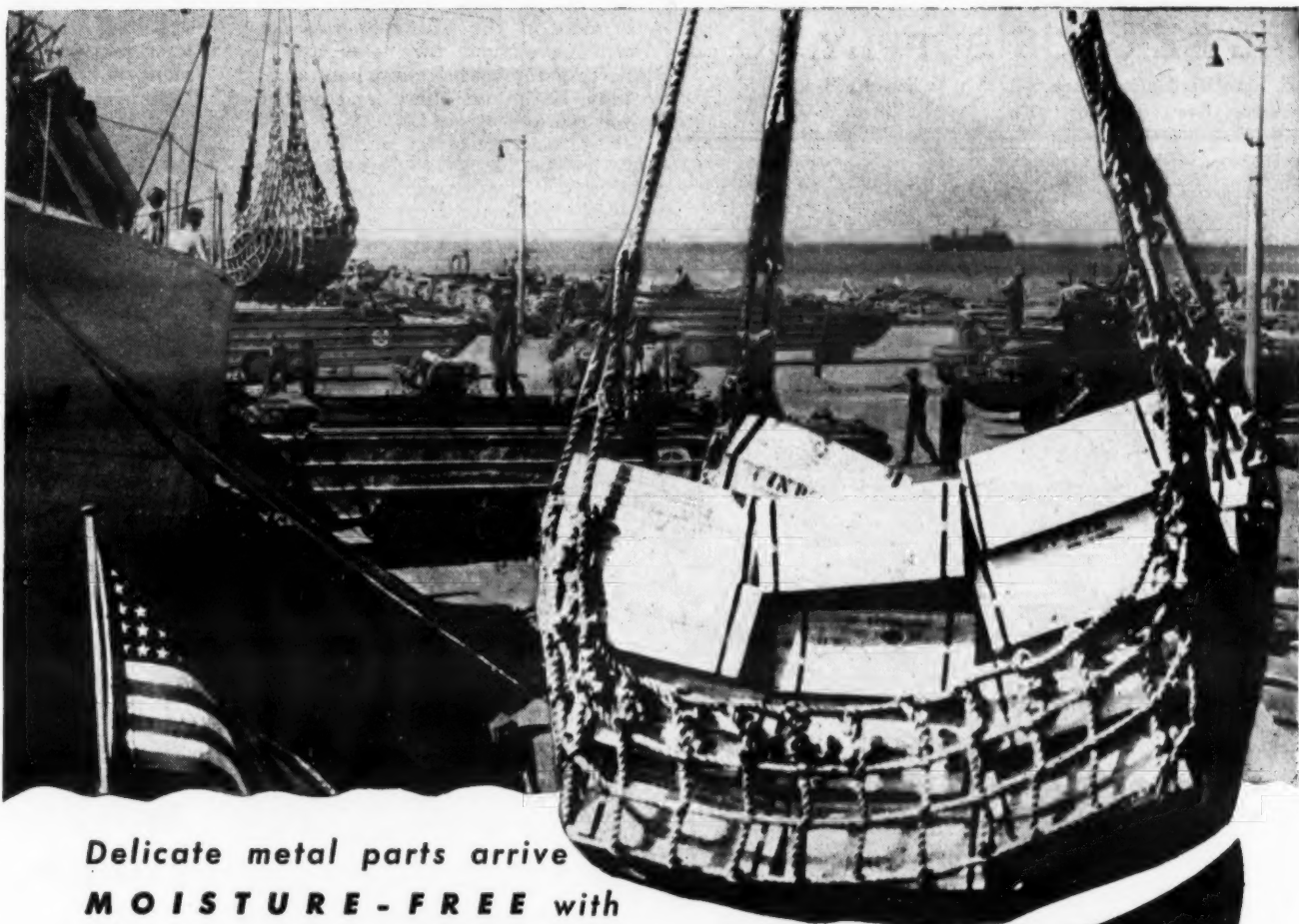
Mullin Heads Sale of G-E Appliances to Farms

BRIDGEPORT, Conn.—G. E. Mullin, Jr., has been appointed manager of the farm sales division of General Electric's appliance and merchandise department, C. R. Pritchard, general sales manager, announces.

Mr. Mullin's experience in the farm field has been extensive since joining General Electric in 1925. From 1936 to 1939 he was in the company's rural electrification, electrical contractor, and educational sections in Schenectady. From 1940 to 1942 he was manager of the farm sales section.

Clay Manages Wesco San Antonio Branch

SAN ANTONIO, Tex.—L. J. Clay has been named manager of the San Antonio branch of the Westinghouse Electric Supply Co. Mr. Clay is new with Westinghouse, having come with the company the first part of this year.



Delicate metal parts arrive
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Joliet SILICA GEL

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THOUSANDS OF PACKAGES of delicate, precision metal parts are being delivered to our fighting fronts . . . moisture-free and rust free . . . because of Joliet Silica Gel.

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Joliet Silica Gel is strictly a quality product. It is clear white; passes a rigid section test;

meets exacting government specifications. Write today for full information.

Opportunity for Jobbers

There are excellent opportunities for jobbers to build profitable business on Joliet Silica Gel in a few territories. Write for details.

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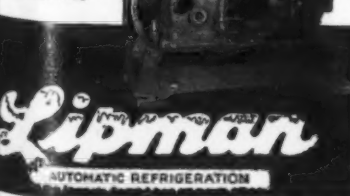
Refrigeration Engineer on Food Freezing Plants

At least five years' application engineering experience, including the design of large commercial systems for freezing foods. Must be thoroughly familiar with load calculations, cost estimates and the most recent developments in freezing processes, techniques and equipment. Attractive key position in Carrier's postwar frozen food program. Address reply to—Walter A. Grant, Director of Application Engineering, Carrier Corporation, Syracuse 1, New York.

WAR INDUSTRIES NEED REFRIGERATION

The use of refrigeration in industry has been greatly accelerated by the war. In peacetime this expansion may logically be expected to continue. Write for literature. GENERAL REFRIGERATION DIVISION

Yates American Machine Co., Detroit, Mich.



REFRIGERATION PLANT SUPERINTENDENT WANTED

Superintendent to head all production in Machine Shop, Assembly Room, and High and Low Sides Department, including dehydration, charging and testing. Man must be thoroughly experienced and energetic. This position has a good future and is with a nationally-known producer of refrigeration equipment. State qualifications and experience. Present organization knows of this inquiry. Box No. 1762, Air Conditioning & Refrigeration News.



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CENTRAL SERVICE SUPPLY CO.

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Bank of Cooperatives Plans Financial Aid For Locker Plants

SPRINGFIELD, Mass. — Postwar activities of the Bank for Cooperatives, according to plans announced in Springfield, Mass. in May, will include loans to help start numerous cooperatively owned plants containing freezer locker storage plants in rural communities of the Northeast.

The Bank for Cooperatives is part of the Federal Farm Credit Administration and is concerned with providing credit for agricultural cooperatives only. The bank enjoyed its largest year in 1944, when it handled \$11,000,000 in new loans to cooperatives, raising its annual volume to \$17,000,000. Thus far this year, it was stated, its business is continuing at the same level. Most of the bank's loans up to this time have been to marketing cooperatives which wholesale fruit, vegetables, or dairy products.

Much interest is said to have been shown in plans for the establishment of new locker plants. It was announced that in some cases, after the war when materials again are available, new special purpose buildings will be erected at central points, or present buildings will be purchased and converted into freezer plants where farmers from a wide area may rent lockers for quick freezing and storage of farm products.

Some of the plants, it was noted, will have their own slaughter and cutting rooms so that whole animals may be taken there and prepared for storage.

British Columbia Locker Plants Reveal Progress in Average Farm Community

'Thrill' Features Should Sustain Growth Postwar

CHILLIWACK, B. C. — "I drew only \$260 for the first 16 months of operation."

You couldn't find more appropriate words to tell the story of the struggles endured by cold storage locker pioneers in Canada. They were spoken by George M. Williams, president of the British Columbia Cold Storage Locker Association and owner of one of the largest, if not the largest, locker plants in the country.

Trail-blazer for the industry in British Columbia, through erection of a plant in Chilliwack in 1938, he concedes that it has been an uphill battle. By the end of 1939, a year and a half after he had opened for business, he had rented only 28 of the 288 lockers in his plant.

Faced with such a situation, many a business man probably would have gone respectably bankrupt and turned to some other field of endeavor. George Williams might have had such ideas, but if he did he kept them to himself. Instead he went on talking cold storage lockers to the farmers in Chilliwack Valley. And by the autumn of 1940 he had more than 100 of them renting space, and by the end of the year all 288 of his lockers were in use.

Today, his company, Chilliwack Refrigeration Co., Ltd., operates two plants with a total capacity of 1,460 lockers and most of them are rented. The second plant, built in 1944, is a smartly styled white building in the downtown area and caters to an ever-growing volume of city trade.

The success of his venture in Chilliwack has resulted in other cold storage locker plants springing up across the province. Although the total still isn't imposing, there are 12 such plants in operation now and 10 more are in the course of construction.

The operators recently formed an association, purpose of which is to assist those entering the field and to endeavor to set up standards of operating practice which will place the new business on a respected foundation. As president of this association, Mr. Williams makes it clear that the operators, far from being exclusive, are ready to welcome new

blood in the field.

They are particularly anxious to help any returning servicemen who may wish to establish themselves in such enterprises.

"There are no particularly big interests in the business anywhere in British Columbia," says Mr. Williams. "Most of us are just average business men who have learned quite a bit about a new and apparently profitable business."

He feels that a keen and industrious operator should be able to make a go of things in any community which possesses a reasonable sized farm population, and economic sources of power and water.

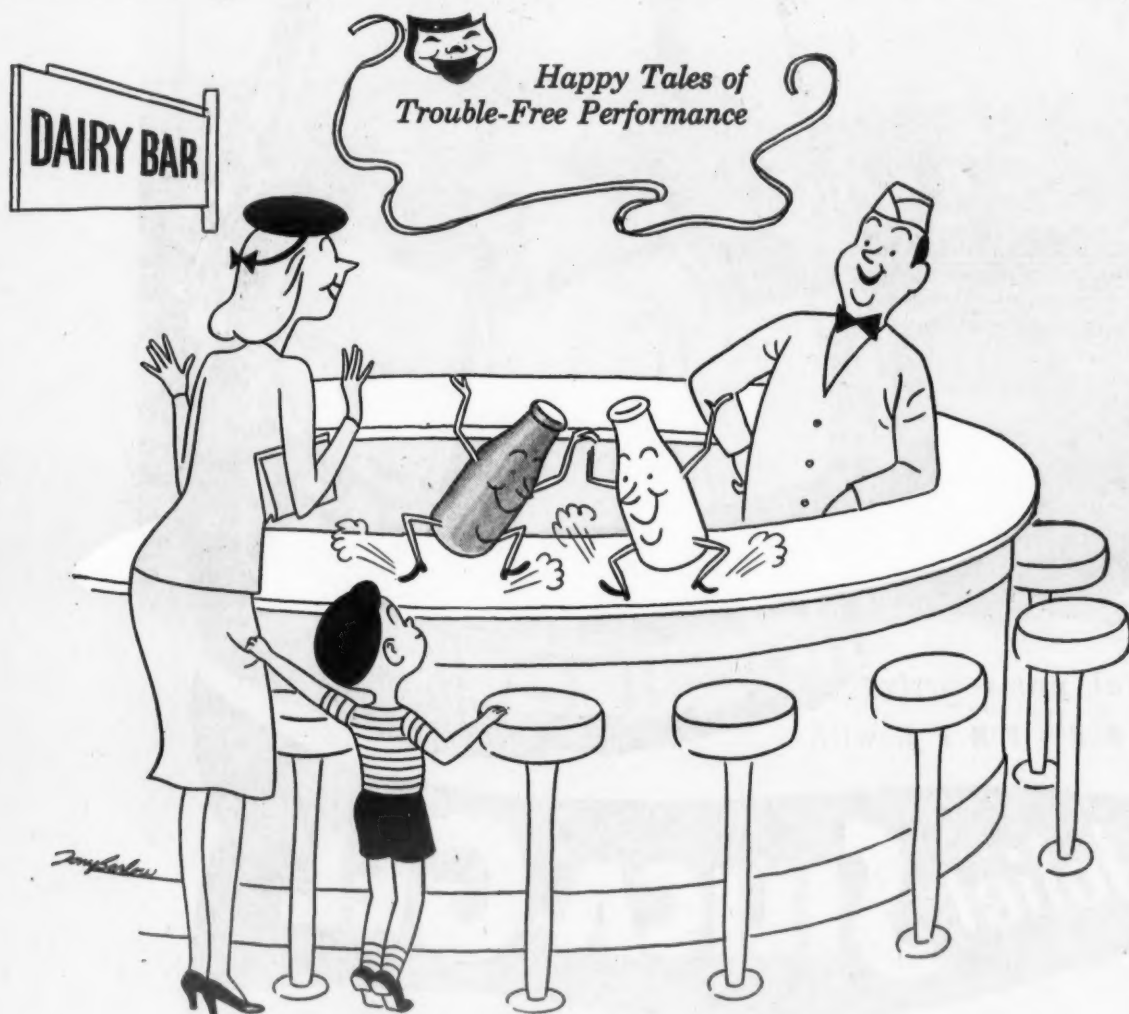
"Farmers around Chilliwack took a lot of showing," he says, "but once a farmer rented a locker I found it was not very long before his neighbors started to come in. Pretty soon you would have a whole group of neighbors renting lockers."

Because the fundamental of the locker business is the habit of saving, he believes that frosted food lockers will enjoy continued popularity during normal periods of peacetime. He discounts that their success is based on any wartime boom or surge of prosperity.

"Saving is more essential during normal or depression periods. With good management any frosted food locker plant should have a sound future, because its type of service is based on the fundamental trait of thrift."

He estimates that perhaps 75% of his business is in meats, a factor which led to his adding a meat curing department in 1943. The result has been that this branch cures and smokes over a ton of pork per week during the busier seasons.

He believes in an individual lock and key system for each locker, and a card index system which supplies a complete record of service rendered every patron. He considers the proper handling and wrapping of meats extremely important to success. Every cut of meat is wrapped in the best quality wax paper, then rewrapped in manilla. Each parcel is stamped with the cut of meat, number of locker, and date it is put in storage.



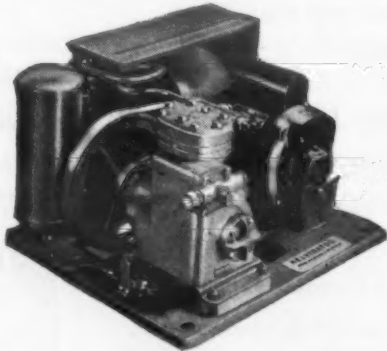
Customer: "What's going on here?"

Clerk: "They're gay because the New Kelvinator Condensing Unit keeps them fresh and happy."

For 30 years Kelvinator's superior engineering and craftsmanship . . . superior designing and manufacturing skill have resulted in condensing units with more dependability . . . more economy . . . more performance.

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Kelvinator distributors and zone offices stock a complete line of refrigeration supplies.



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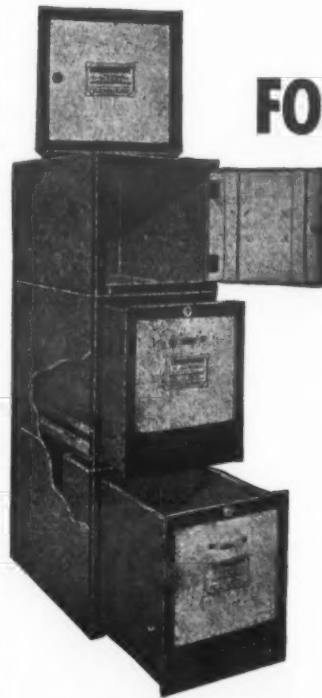
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MASTER FOOD CONSERVATORS



They are solidly built of steel by men who pioneered the industry. They have features that assure profitable and economical Locker plant operation. It costs no more to get the "Choice of the Industry." If you want lockers that meet your every requirement—demand MASTER.

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Member of Frozen Food Locker Manufacturers and Suppliers Ass'n. organized for your protection.

Over 700,000 Master Food Conservators in Use

Admiral 'Dual-Temp' Model Is Tested By Birds Eye-Snyder

CHICAGO—Admiral Corp.'s "dual-temp" household refrigerator has been laboratory tested and given certificate of approval by Birds Eye-Snyder, Inc., according to announcement by L. H. D. Baker, Admiral's vice president in charge of appliances.

"This freezing locker and frosted food storage compartment has been laboratory tested by Birds Eye-Snyder, Inc., and is approved by them for the storage of Birds Eye foods and other quick frozen foods when used according to directions," the certificate reads.

The refrigerator is divided into two separate compartments, the smaller of the two for the quick freezing of foods or for storage of foods already frozen, the larger "moist-cold" space for fresh food preservation.

Southland Moves To New Miami Quarters

MIAMI—Southland Refrigeration & Maintenance Co., Inc., has been reorganized and expanded to step up present service facilities, and negotiations have been completed to move into a newly acquired building at 6 N. E. St., reports Joseph E. Griffin, president.

First floor of the new building will be given over to offices and show rooms, while the second and third floors will house service shops. Present offices are at 327 N. E. First Ave. here.

Future plans of the firm include expansion in the industrial, commercial, and domestic fields, as well as marine refrigeration, said Mr. Griffin.

Maximum Prices Set On Home Freezers Produced by Schmit

WASHINGTON, D. C.—Maximum prices for two models of home and farm freezers manufactured by the Schmit Construction Co. have been established by Order 3968 to Maximum Price Regulation 188. The order also permits certain additional charges.

Following are the prices to the trade and to consumers:

Item	Size	On sales to distributors	On sales to dealers	On sales to consumers
L-D-10	10 cu. ft. with 1/4-hp. condensing unit	\$190	\$288	\$380
L-D-15	15 cu. ft. with 1/4-hp. condensing unit	225	330	450

The maximum net prices established in (a) above may be increased by the following amount to each class of purchaser as a charge to cover the cost of crating, when crating is actually supplied: \$6.

The maximum net prices established by this order shall be subject to discounts and allowances and the rendition of services which are at least as favorable as those which each seller extended or rendered to purchasers of the same class on comparable sales of similar commodities during March, 1942.

On sales by a distributor or dealer the following charges may be added to the maximum prices established above:

(1) The actual amount of freight paid to obtain delivery to his place of business. Such charges shall not exceed the lowest common carrier rates.

(2) Crating charges actually paid to his supplier but in no instance exceeding the following: \$6.

Each seller of the commodity covered by this order, except a dealer, shall notify each of his purchasers,

in writing, at or before the issuance of the first invoice after the effective date of this Order, of the maximum price established by this order for each such seller as well as the maximum price established for purchasers upon resale, including allowable transportation and crating charges.

The Schmit Construction Co. shall stencil on the inside of the lid or cover of the farm and home freezer covered by this order, the maximum net price to consumers established by this order. The stencil shall contain substantially the following:

OPA Maximum Retail Price—\$.....
Plus freight and crating as provided in Order No. 3968 under Maximum Price Regulation No. 188.

Vassar Will Direct All Wesco Service

NEW YORK CITY—John A. Vassar has been named general service manager of the Westinghouse Electric Supply Co. He will have offices in New York.

In his new position, he will be responsible for the supply company's nation-wide service department operations, including home appliances and radios.

Coming to the Westinghouse Electric Corp., parent concern of the supply company, in 1929, Mr. Vassar was appointed assistant service manager of the Electric Appliance Division with headquarters at Mansfield, Ohio. He joined the supply company May 1 of this year in his new post.

Gulf Shipbuilding Co. Launches Third 'Reefer'

MOBILE, Ala.—The SS San Jose, the third in a series of six all-refrigerated ships to be built by the Gulf Shipbuilding Corp. for the U. S. Mail Line, a subsidiary of the United Fruit Co., was launched at Chickasaw yard recently.

Ice Cooling Appliance Freezer Prices Are Set

CHICAGO—Retail price of \$215 has been established by OPA as the ceiling on the home and farm freezer manufactured by Ice Cooling Appliance Corp. here. The unit is known as the "HL-9 Koldmaster."

Manufacturer's price to distributor is set at \$107.50, and distributor's price to dealer at \$129. When crating is supplied actual crating charges up to \$4 may be added to the ceiling prices. Actual freight charges may also be added, OPA has ruled.

Valley Refrigeration Gets New Building

TULARE, Calif.—Valley Refrigeration Co. is erecting a \$19,000 building on Lindsay highway here, announces Robert Fish, head of the company.

The new structure, which will be completed in two months, will be used primarily as shop and warehouse space.

Built by the Stover Construction Co., the building is modernistic in design.

TROUBLE-FREE OPERATION

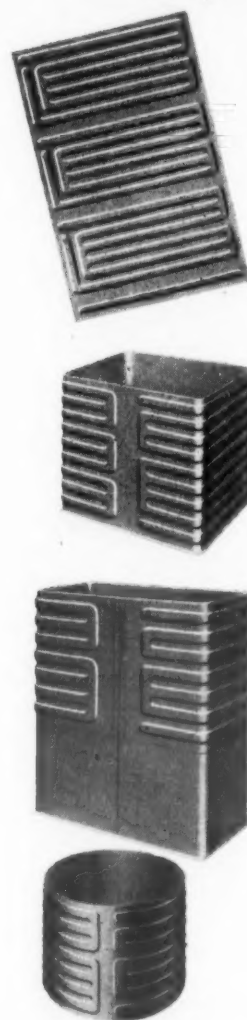


Because of the "Prime Surface" (no intermediate factor between the refrigerant and the contact surface of the plate) of Stangard Cold Plates, highest refrigeration efficiency is achieved, reducing such locker plant troubles as excessive power costs and dehydration to a minimum. The smooth surface of the plate permits easy brushing off of the accumulated frost, making plant shutdowns for defrosting unnecessary.

Whether for locker plants, display cases, food counters, soda fountains, trucks, liquid coolers, ice cream cabinets, farm milk coolers, farm freeze cabinets, frosted food refrigerators, beverage coolers, rivet chillers and low temperature test rooms, install Stangard Prime Surface Cold Plates and see how easy it is to have trouble-free operation!

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STANGARD KNOWS REFRIGERATION



You'll do faster flaring with a SLIP-ON YOKE!



The No. 195-F Imperial Flaring Tool with the Slip-on Yoke has made a great hit with refrigeration men everywhere.

The illustrations show how easy it is to use. The yoke is made so that it slips right over the bar instantly without twisting or turning. Inside edges of the yoke are slotted so that once in position a slight turn holds it in place.

If you haven't used one you will be

surprised how this improvement speeds up flaring.

The No. 195-F Flaring Tool makes correct 45° flares on 1/4", 5/16", 3/8", 1/2" and 5/8" O.D. soft copper, brass or aluminum tubing to make up leakproof SAE flare joints.

If your Jobber cannot supply you with one of these flaring tools from stock he can secure it for you in a short time.

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FITTINGS • STRAINERS • DEHYDRATORS • VALVES • FLOATS • CHARGING LINES
TOOLS FOR CUTTING, FLARING, BENDING, COILING, PINCH-OFF AND SWEDGING

They'll Do It Every Time By Jimmy Hatlo



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IT'S LATER THAN YOU THINK

Even before V-E Day, Sunroc Refrigeration Company had almost completed its distributor sales-structure for nation-wide distribution . . . and was turning out Sunroc Water Coolers in impressive numbers, for essential civilian use.

Production-wise, no plant-changeover was necessary . . . there was no lag of reconversion. Side by side with production lines for the Government, Sunroc Water Coolers of identical quality are being built, in ever increasing numbers, for an impatient home-front market.

This market is more than a war-starved market. It is a market which had received comparatively little cultivation before the war. The demand for Sunroc Water Coolers, based on a universally recognized need, offers unlimited possibilities for properly qualified dealers.

If you would be one of these, the time remaining for action is short. A few—a very few—choice Sunroc franchises are yet to be allocated. Prompt action, now, may bring you a profitable tie-up with the organization which, through intensive specialization, has developed the finest water coolers in America.

Mail the coupon today, and we will refer it promptly to our regional distributor. He will give you full information about Sunroc, and inform you as to territory available. Sunroc Refrigeration Company, Glen Riddle, Pa.



"There's nothing like a cool drink of water"

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Water Coolers

GLEN RIDDLE, PA.

SUNROC REFRIGERATION COMPANY
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Gentlemen:
Please send full particulars on the Sunroc Water Cooler franchise, and your story of "One Product, One Price, One Policy."

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VOLUME 45, No. 9, SERIAL NO. 850, JULY 2, 1945

This Patent Controversy

LED by Thurman Arnold of the United States Court of Appeals, a determined attack is being made on the world patent system. When Mr. Arnold was Attorney General he used that office primarily for wild-swinging "trust buster" activities; and now apparently, under the guise of "returning patents to the inventor," he is setting out to apply the Sherman Anti-Trust Act to the world at large.

In court decisions he is writing, Mr. Arnold is insisting that "the collective achievement of a corporate research organization is not patentable."

He has written that the products of corporation laboratories are "more often than not the product not of inventive ability but of the financial resources and organizing ability of those who operate the laboratories."

Well, so what? The big point is that out of laboratories comes progress. The end result—better living for individuals and for the community—is what's important, rather than whether the idea originated in a basement workshop or from the collective endeavors of a group of scientists working in an air conditioned laboratory on salaries which give them freedom from want.

Mind you, we're all for the individual inventor. He is of the stuff which built America. Fruits of his toil should be rewarded commensurately with their worth. His brain children should be fully protected under the patent laws.

But why should our desire to protect the attic-workshop inventor lead us to destroy that other fruitful source of progress—the corporation laboratory?

For the rugged genius who gets thin in a garret while working out his invention we have nothing but understanding and admiration. He deserves the best. He is a true American.

But for the trained scientist who prefers the security of a salary to the gamble for great riches, we have another, and just as valid, kind of admiration. Frequently this is the pure scientist. He wants to concentrate on his research, free from money worries. He wants all the equipment and assistance available, without having to mortgage his mother-in-law's farm to buy second-hand tools.

He has the leisure, the equipment, and the assistants to work out problems which the lone inventor could never hope to tackle. True, if he works out the problem's solution, the corporation which pays his salary and provides his tools makes the profit.

But in the meantime, whether he wins or loses—and most scientific research is in the red most of the time—he is well fed, well clad, well housed, and living amongst congenial companions who speak his language. All the corporation research workers we know are happy fellows.

It will be argued by the totalitarians that if corporation laboratories aid progress whilst keeping scientists comfortable and happy, the government should operate such research institutions.

The objection to such a course is, naturally, politics. Scientists would then obtain their jobs not because of what they knew but whom they knew. A change of rulers would probably mean a new set of scientists and a junking of the research-in-progress. And without the compelling urge of the profit motive, the government-sponsored laboratory might easily degenerate into a boondoggle.

It's our belief that Thurman Arnold won't be very successful with his windmill tilting. The people of this country won't let any man get in the way of progress, no matter how glib his demagogic appeals may sound at first hearing.

Refrigeration Service Engineers

PERFORMING OUTSTANDING MAINTENANCE JOB

Today, in towns all over America refrigeration service engineers are doing an outstanding maintenance job of keeping refrigerated display cases, ice cream cabinets, food storage lockers and the countless other applications of refrigeration running smoothly and efficiently.

On call the refrigeration service engineer performs his task, oftentimes while the city sleeps. Thousands of dollars he has saved retailers, countless thousands of pounds of precious food he has prevented from spoiling.

These men rely upon A-P DEPENDABLE Refrigeration Controls. They use A-P DEPENDABLE Refrigeration Controls to help them perform their important task. As many of them write "I use a lot of A-P Controls and never had one fail me yet."

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A-P Model 215 Thermostatic Expansion Valve. Capacity up to 6 tons Freon.



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NIAGARA
"NO-FROST" METHOD
WITH SPRAY COOLERS
 ... gives always full capacity because there is no interruption for defrosting at sub-zero temperatures; protects quality in foods.

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Study of Air Duct Friction Aims To Provide More Practical Charts

CLEVELAND—The subject of air duct friction will be a major study at the Research Laboratory of the American Society of Heating & Ventilating Engineers, Cleveland, under the direction of the Technical Advisory Committee on Air Distribution and Air Friction.

Responsibility for these studies has been given to a subcommittee: R. D. Madison, Chairman, Buffalo; S. H. Downs, Kalamazoo, Mich.; L. P. Saunders, Lockport, N. Y.; K. H. Flint, Cleveland; H. F. Hagen, Boston; L. L. Simmons, Detroit; and Prof. D. K. Wright, Cleveland; and a conference was held April 5 at the Research Laboratory. A Report on the following aspects of the subject of air duct friction prepared by Prof. Wright for the Committee on Research, was considered.

COMPARE EXISTING DATA

(a) A comparison of basic source data;

(b) A comparison of the present friction chart in the Guide with similar charts or tables in use by various organizations or recommended in handbooks and textbooks.

In presenting his report, Prof. Wright stated, "Authorities in the field of fluid mechanics are in essential agreement as to the general equations governing the friction of fluid flowing in closed round pipes. These relations have been employed by Rouse and by Moody in preparing charts from which the friction coefficient can be determined. It has

been definitely established that these charts are valid for a large number of fluids, air among them.

"Since any practicable set-up for testing the friction of ventilating ducts is limited as to sizes of ducts which can be tested, and velocities which can be reached, such tests as were made in the past have been generally restricted to conditions in the lower portion of the friction chart. This limited range of results leads to an equation which can be greatly in error if extrapolated sufficiently to include the range of the usual friction chart."

In view of the general acceptance of the basic functions, Prof. Wright suggested that it would be a better procedure to use the results of tests on ducts to evaluate the one unknown in the equation, i.e., "the roughness parameter, and to make up the proposed friction chart on that basis.

WHAT IS WRONG NOW

It was pointed out that the friction charts now in general use tend:

(1) To give friction values too low in the upper range if satisfactory in the low range, or too high in the middle if satisfactory at top and bottom.

(2) To over-emphasize the effect of change of diameter in the low velocity range.

(3) To under-emphasize the effect of change of diameter in the high velocity range.

RECENT LEGAL DECISIONS Affecting Refrigeration & Air Conditioning Fields

Approximately 90% of all lawsuits involving companies or individuals in the refrigeration, appliance, and air conditioning fields result from a lack of knowledge of the elementary principles of modern law, declares Leo T. Parker, Cincinnati attorney who analyzes and writes on litigation in various industries.

Mr. Parker in this series of articles reviews some of the more recent higher court decisions on lawsuits which have involved business matters and practices in the refrigeration, appliance, and air conditioning fields.

Seller Liable on Contract

A seller of air conditioning, refrigerating, and heating equipment always is liable on a breached contract. Also, a bank, or other person, who purchases the notes and contract given by the purchaser cannot ordinarily recover payment from the purchaser where the testimony shows that the seller breached the contract.

This rule of law is applicable although the purchaser signs an agreement that he is perfectly satisfied with the equipment.

For example, in State National Bank of El Paso, Texas, v. Cantrell, 143 Pac. (2d) 592, reported January, 1944, it was shown that a restaurant owner purchased from a dealer-contractor an air conditioning system to be used in his restaurant. Signed by the seller and by the restaurant owner was a conditional sale contract which contained a clause as follows:

"The seller would guarantee said equipment for a period of five years."

The restaurant owner paid part down and gave his notes for the balance due. Soon afterward the restaurant owner signed a letter stating that the equipment purchased has "been completely installed and is satisfactory."

The seller sold the notes and the contract to a bank. Within a few months the restaurant owner discovered that the air conditioning equipment installed in his restaurant was partly second-hand and was unfit for the purposes for which it was purchased.

The buyer called upon and asked the dealer-contractor to make such repairs on the equipment as would cause it to function properly or to replace the same. The seller failed to comply with this request, and the restaurant owner refused to pay the notes held by the bank. The bank sued the restaurant owner, but the higher court held the latter not

liable nor required to pay the notes. This higher court said a "signed statement" that the subject of sale is satisfactory does not conclude the purchaser, but is only to be considered along with all other evidence on the issue whether or not there has been a breach of warranty on the part of the seller.

If the seller has breached the original contract the purchaser may recover all past payment, and also is entitled to damages he sustains.

Must Comply with Law

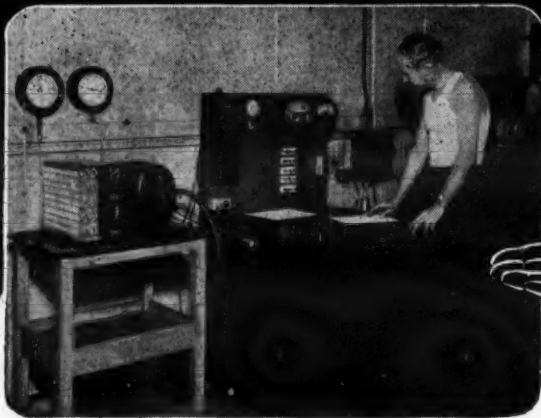
An important point of law is the almost all states have enacted special laws which require foreign corporations to obtain from state authorities permits, licenses, or certificates to do business. Many of these state courts have held the manufacturers or sellers who fail to comply with this law forever forfeit their legal rights to maintain a suit in the state. Other state courts have held that the seller may continue the suit after he obtains the certificate.

For example, in Warren Co., Inc. v. Exodus, 54 N. E. (2d) 755, reported August, 1944, the validity of an Indiana state law was contested which prohibits foreign corporations from transacting business in the state without procuring a certificate. A corporation in Georgia failed to obtain the certificate and filed suit in Indiana against a purchaser of refrigeration system to collect the amount due.

The higher court refused to permit the seller to defend the suit until he obtained the certificate.

However, in another recent decision the higher court refused to permit a seller to obtain a certificate and then continue with the suit. This court held that the seller forfeited his right to prosecute the suit by his failure to comply with the state law and obtain a certificate before the suit was filed.

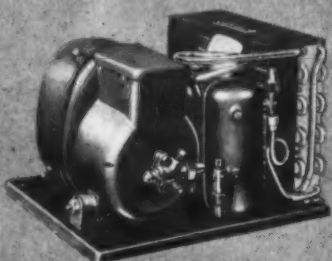
"Made-to-order" weather helps ...



when you *Servel**

*Servel's new "Supermetic" condensing units will serve dealers and fixture manufacturers in every vital field

1. STORE FIXTURES
2. MILK COOLERS
3. HOME LOCKERS
4. BEVERAGE COOLERS
5. VENDING MACHINES
6. ROOM COOLERS
7. FARM FREEZERS
8. WATER COOLERS
9. INDUSTRIAL COOLING
10. VEHICLE REFRIGERATION



You can assure customers of efficient operation under any climatic conditions when you sell Servel condensing units. These units are used all over the globe, and must operate efficiently in every climate known to man.

That's why, in the "hot room" pictured above, every Servel unit is subjected to "made-to-order" weather far more severe than anything encountered in actual use. Before it is released, every unit must prove its ability to operate successfully in the dry heat of Death Valley, the humid, sultry heat of New Guinea, the bitter cold of Alaska.

This weather test is important, not only because it assures the efficient operation of Servel units in extreme climates, but also because it guarantees performance in normal climates. But important as the test is, it is only one of many similarly exhaustive tests, covering every phase of operation, that Servel units must pass.

Servel's "Allied" manufacturers frequently take advantage of these test facilities to prove new products. This assures Servel customers of a double check on the quality of packaged merchandise.

These tests are just one more reason why, when you sell Servel, you can do so with full confidence in the ability of the units to measure up to any demands that may be placed upon them.

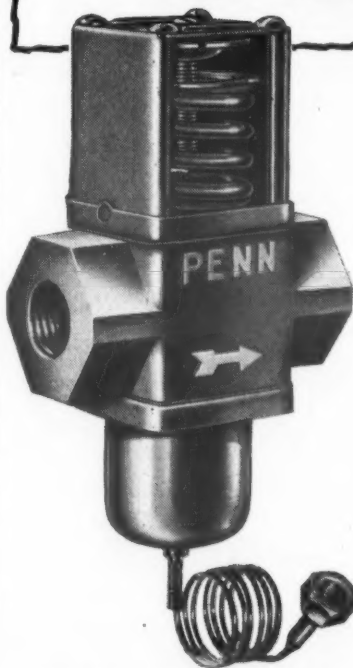
FREE: For advance information about Servel's post-war line of condensing units, write for the new folder, "Servel Supermetic." Address Servel, Inc., Dept. RN, Evansville 20, Indiana.



SERVEL, Inc.

Electric Refrigeration Division, Evansville 20, Indiana

NO WATERLOO For This Water Valve



Penn Series 246 Water Regulator

Disaster ... in the form of sedimentation corrosion and rust ... strikes hard on ordinary water valves, thus imperiling the operation of commercial refrigerators and air conditioning systems. Yet it is never less to take such risks. PENN Water Valves are designed to combat rust, corrosion and sedimentation successfully!

PENN Water Valves assure dependable long-life performance because sliding parts never come in contact with water! There are no sticking seats, no rusty springs. This water regulator is extremely sensitive to changes in refrigerant head pressure—yet free from water hammer, too.

The PENN 246 is built in two styles—flanged and threaded—and in a wide capacity range. Bulletin R-1986 tells the whole story. Get your free copy now! Write Penn Electric Switch Co., General Ind. Export Division: 13 E. 40th St., New York 16, U.S.A. In Canada: Powerlite Devices, Ltd., Toronto, Ont.

PENN
 AUTOMATIC CONTROL
 FOR HEATING, REFRIGERATION, AIR CONDITIONING, ENGINES, PUMPS AND AIR COMPRESSORS

Correct Methods of Handling & Working With Copper Tubing

Editor's Note: The following material is from the cleverly prepared booklet "Tube Trails," put out by Wolverine Tube. The booklet was developed in response to a call issued at a R.E.M.A. meeting a year ago by refrigeration service men for more information about the handling and servicing of each manufacturer's products.

General Pointers

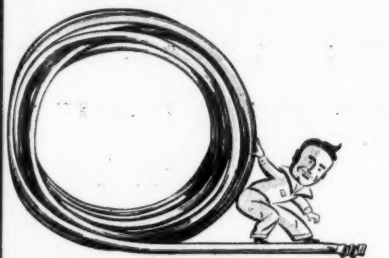
First, let's take the faults of the copper tubing as seen by the service man.

Common complaints are:

- (1) It is not clean.
 - (2) It is not soft enough.
- complaints against the service man:
- (1) He is inexperienced.
 - (2) He is careless.

Here are some general pointers which, if observed, will lead to the good ground of mutual understanding and improved performance.

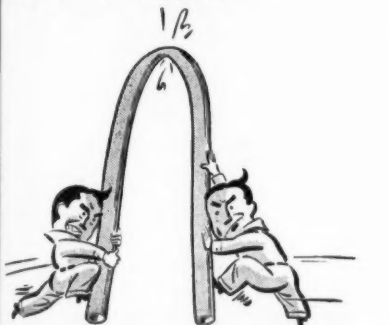
- (1) Order tubing that is clean, dry, and properly annealed.
- (2) Handle the tubing with care.



- (3) Do not unroll an entire coil to use only part of it. Bending tends to stiffen.
- (4) Use good tools.

Bending

Watch yourself when bending soft annealed tubing in the field or when tools are not available.



Remember the tubing is apt to kink if bent with one rapid motion. Don't sacrifice your time and your tubing—much less your reputation, for speed.



This is the way to bend tube properly: Grasp the tube in both hands leaving about 3 inches of bending area between your thumbs. When you start the bending motion, slide the thumbs toward each other along the tubing, exerting an even pressure. Repeat this until the tubing has been bent to the desired shape. A half dozen times is usually sufficient for a 1/2 inch tube.

When bending a larger tube, start with the hands farther apart and work the tubing to the required shape more slowly.

Cutting and Burring

Cutting tools may not be available or the tube to be cut may be too large to fit the tool you have. When such is the case and you use a hacksaw, observe the following to obtain the best results:

- (1) Don't force the cut—the tube will flatten.



- (2) Make cut at right angle to the tube.

- (3) After cut is made—use a file or knife to remove the rough burr produced by cutting.

- (4) If first cut has faulty angle, either make another cut or square it up with a file.

- (5) If a tube cutter is used, do not apply too much pressure or the tube will be forced out of round.

- (6) Also be sure to remove burr from inside wall of tube to prevent a "rolled-edge-flare."

(To Be Continued)

York Corp. Declares 15 Cent Dividend

NEW YORK CITY—The board of directors of York Corp. has declared a dividend on its capital stock of 15 cents per share, payable on July 14, 1945, to stockholders on record at the close of business on June 20, 1945. The preceding dividend was one of a similar amount paid on Jan 15, 1945.



Field Education

Manufacturers know that the reputation of their companies, and of the products they sell, are largely dependent on the correct application of the product in the field. NRSJA members educate the trade to the use of new products, and to the correct installation of all items they sell. They not only broaden the market for the firms they represent, but protect the reputation of those manufacturers, and of the industry.

NATIONAL REFRIGERATION SUPPLY JOBBERS ASSOCIATION
Dependable Distribution
Headquarters Paramount Building, Cincinnati, Ohio



MECHANICAL REFRIGERATION

The Watchdog of the Nation's Food Supply

Refrigeration Products

Humi-Temp Forced Convection Units—Patented CROSS-FIN COILS—Bare Tube Coils—Zinc Plated Steel Plate Coils—Disseminator Pans—Heat Exchangers—Evaporative Condensers—Instantaneous Water Coolers—

See Your Jobber or Write Direct
LARKIN COILS,
519 Memorial Drive, S.E., Atlanta, Ga.

Improved REFRIGERATION DRYERS

Weatherhead dryers using Silica Gel are made in both the rechargeable and non-rechargeable types. No felts or organic filters are required. Instead, a generous number of fine mesh stainless steel screens are used. Full flow is assured even at zero temperatures. The Weatherhead line of improved refrigeration products is available now.




In addition to refrigeration dryers, Weatherhead also manufactures complete lines of valves, manifolds, fittings, drain cocks and other products for the following industries:

- AUTOMOTIVE
- ★
- REFRIGERATION
- ★
- RAILROAD
- ★
- MARINE
- ★
- FARM EQUIPMENT
- ★
- ROAD MACHINERY
- ★
- DIESEL
- ★
- L. P. GAS
- ★
- APPLIANCE MANUFACTURERS

Free

Write today or phone any branch office for our new, fully illustrated Refrigeration Catalog.

Look Ahead with 

Weatherhead

THE WEATHERHEAD COMPANY, CLEVELAND 8, OHIO
Plants: Cleveland, Columbia City, Ind., Los Angeles, Canada—St. Thomas, Ontario

BRANCH OFFICES: NEW YORK • PHILADELPHIA • DETROIT • CHICAGO • ST. LOUIS • LOS ANGELES

Introducing...



For tracing all leaks in refrigerating systems . . . especially the hard-to-find leaks . . . nothing excels Trace. Small additions of Trace color the oil in a system a vivid red, which quickly appears on the exterior and marks the site of the leak.

Trace incorporates the long experience of the makers of Thawzone in the refrigeration field. It is tops for safety and effectiveness. Ask the refrigeration supply jobber for it. For full particulars consult him or write us for literature.

TRADE PRICES

- 4 oz. bottle \$ 1.00
(40 bottles to a case)
- 1 pt. bottle \$ 3.00
(24 bottles to a case)
- 1 qt. container \$ 5.00
(12 containers to a case)
- 1 gal. container \$16.00
(6 containers to a case)

Save 10% on case lots

HIGHSIDE CHEMICALS CO.

195 Verona Avenue

By the makers of

THAWZONE

The PIONEER FLUID DEHYDRANT

Newark 4, New Jersey

'Inviting' Store Layout Will be Chief Help To Postwar Dealer, Believes Appliance Mfr.

NEW BRITAIN, Conn.—Accelerated market trends will sharpen competition when electrical appliances are again on the market, and it will be the dealer with the modern, inviting store who will be getting the sales volume, believes executives of Landers, Frary & Clark, manufacturers of Universal appliances.

So, to help dealers redecorate and redesign their stores, leaders in the field of store modernization were contacted by Landers, Frary & Clark, with a view toward working out a plan practical for any dealer.

CALLED 'MODERNEERING'

These plans were then tied together in a package labelled, "Moderneering."

Richard M. Bennett, store modernization consultant and professor of design in the Department of Architecture at Yale University, created the basic plans of "Moderneering," and coordinated the recommendations and specifications of cooperating manufacturers who participated in the program.

Dr. O. P. Robinson, of New York University School of Retailing, author of three books on merchandising and modernization, was associated with Universal's plan board in producing the guide to store planning.

Store materials manufacturers who cooperated with Universal in the development of "Moderneering" were:

Pittsburgh Plate Glass Co., Congoleum Nairn, The Celotex Corp., Sylvania Electric Products, Inc., W. C. Heller Co., American Store Equipment Corp., Devco Reynolds Co., Inc., National Electric Sign Association, and the Carrier Corp.

"Moderneering," as conceived by Landers, Frary & Clark, employs such basic principles as:

(1) Basic plans are provided for three types of stores: specialty appliance shop; hardware and general type store; and a modern appliance center for department, furniture, or utility stores.

(2) These basic plans are developed step-by-step through each phase of store planning—including store fronts, flooring, interiors, lighting fixtures, display fixtures, signs, and air conditioning.

SUGGESTIONS IN PLANS

Following are some interesting ideas culled from the basic plans:

Items such as design of floor patterns by Congoleum Nairn or use of walls and ceiling materials by Celotex Corp. tied in with the basic projection walls play an important part in planning a retail store for the main purpose of selling merchandise.

The flow of traffic from the street to the interior is accomplished through simple but important window and store front treatment. For example, Pittsburgh Plate Glass'

store front design is so constructed that a consumer is lead subconsciously into the store by the display of appliances in the window.

In the interior of the radio and appliance store, cross counter displays, appliance centers, and criss-cross aisles play a psychological part in getting the customer from one display of merchandise to another.

Customers who enter the store in anticipation of purchasing a radio can easily be led to the left of the store where radios are situated or to the right where washers and ranges are displayed, and with good salesmanship, induced to double their purchases through the use of counter displays or related items.

NOVEL APPLIANCE DISPLAY

At the right side of the store, saw-tooth background planes feature major appliances. The broken line is of greater interest, more stimulating, and less inclined to streamline traffic past important sales areas.

Individual zig-zag projections are one means of isolating each model for close customer interest, at the same time retaining the value of mass display when the whole wall is viewed from a distance.

Actual demonstration arrangements of major appliances are planned at the back of the store (1) as traffic magnets that will draw

Proposed Design of Store Interior



The above sketch incorporates many of the suggestions for redesigning store interiors that are being offered to dealers under the "Moderneering" plan developed for Landers, Frary & Clark by a Yale University professor and various interested manufacturers. Note the saw-tooth display of major appliances, intended to stop traffic in the store, permit spotlighting of individual appliances, and yet produce a mass display effect.

customers through the store, (2) to set the stage for final decision and purchase after preliminary inspection of models and (3) to stimulate additional purchases.

The prospect is encouraged to operate the range, washer, or ironer—to observe the appliance under everyday conditions—thereby sensing possession even before the purchase is made. Skillful demonstrations followed by on-the-floor trials at the point of sale are productive of volume results.

Arrangement in the model kitchen must be right, but it must never be forgotten that the customer remembers the location of doors and windows in her own kitchen space limitations which prevents her from seeing the dealer model in her home. However, her space can be arranged well for working and can have the same feeling, style, convenience, and atmosphere of the retail Demonstration Area.

OFFICE HAS PRIVACY

The office is placed at the rear of the store apart from the general merchandising area itself. This should be a place of privacy where the dealer can conduct his store business, keep his files and records, meet suppliers' salesmen, and discuss matters of importance with his staff.

Air conditioning units should be placed at the rear of the store. A packaged unit makes a logical choice since it does not require a system of ducts for air distribution.

Although at the back of the store, the service department should not be isolated from the general layout. Customers should be able to find it easily, and in so doing they will be exposed to the merchandising strategy of the store arrangement.

Westinghouse Doubles Advertising Program

MANSFIELD, Ohio—New advertising and merchandising programs on refrigerators, home freezers, ranges, and water heaters and continuance of the present full-line and automatic washer campaigns involving advertising expenditures alone for the last half of the year just double those of the first six months have been announced by the Westinghouse Electric Appliance Division.

The campaigns released this month have long been in preparation and were timed to be released right after V-E Day, said Roger H. Bolin, advertising and sales promotion manager of the Division, in making the announcement.

The largest individual product promotion for the next six months is on household refrigerators and home freezers. Two separate campaigns are planned—one on refrigerators and home freezers, beginning in late June, in general magazines (Life, Colliers', Ladies' Home Journal, and American Magazine) and one on the larger sizes of home freezers for the farm in July issues of Country Gentleman, Farm Journal, and Progressive Farmer, the advertising manager said.

"The general magazine series employs full-color human interest photographs by Victor Keppler and announces three types of refrigeration by Westinghouse for postwar: (1) basic refrigeration in household units similar to prewar models, (2) two-temperature refrigerators with extra large storage space for frozen foods, and (3) upright home freezers with 'reach-in convenience' in 16, and 25-cubic foot sizes.

DESIGN ENGR.

Check other Postwar Finishes against these Polymerin Advantages!

PROTECTION! Polymerin, the original speed-bake finish, is an organic coating designed for maximum resistance to humidity, grease, cold, heat and chipping. Impartial tests have proved Polymerin to be 9 times harder to chip than ordinary enamels!

BEAUTY! The gleaming whiteness of a Polymerin-finished refrigerator or cooler has sales-making display value. Your customers will thank you for it, too—because white Polymerin stays white, won't yellow with age. Polymerin is also available in a full line of lasting colors.

FINISHING SPEED! When the finished surface is brought to the proper temperature, Polymerin cures instantly. Finishing schedules of only a few minutes help you to maintain fast production and cut finishing costs.

NATIONAL ADVERTISING: You get maximum sales benefit from a Polymerin finish because Polymerin has been nationally advertised to the consumer in big national magazines. This advertising will be resumed when conditions warrant it. It will help Polymerin help you to make more sales!

"THE FACTS ON POLYMERIN"

"The Facts On Polymerin" gives many examples of how and why Polymerin has been used by leading manufacturers. You should know these facts before you decide the finish for your new models. Use the coupon below to send for a free copy of "The Facts On Polymerin" today.

Regular Polymerin is not available now. But Polymerin-200, a new finish that can be handled exactly the same as regular Polymerin and which is comparable in flow, flexibility, durability and lustre, is giving very satisfactory results in many applications.

A & W POLYMERIN

The Original Speed-Bake Finish

AULT & WIBORG

Division of Interchemical Corporation

AULT & WIBORG

Division of Interchemical Corp., 350 Fifth Ave., New York 1, N. Y. Please send, without obligation, a copy of "The Facts On Polymerin" the booklet which gives, industry by industry, many examples of how and why Polymerin has been used by leading manufacturers.

Name.....

Company.....

Address.....

WEBER *first*

IN PEACE...WAR...POST-WAR

Commercial Refrigeration,
Soda Fountains, Ice Cream
and Frosted Food Cabinets

Investigate the country's
most complete line of
commercial refrigerators,
soda fountains and ice cream
and frosted food cabinets
before you make any post-war
sales plans.

PLAN NOW TO SELL
THE WEBER LINE INSTEAD
OF SELLING AGAINST IT
Write today for data concerning the details of Weber distributorships. This franchise will make real money for those concerns who can qualify.

WEBER SHOWCASE & FIXTURE CO. INC.

5700 AVALON BOULEVARD • LOS ANGELES, CALIFORNIA

Crosley Emphasizes Need for Effective Selling As Chief Postwar Problem in Appliance Field

Dealers at Detroit Meeting Advised to Arrange Flexible Store Displays for Better Promotion

DETROIT — The importance of special sales and accessible floor displays in successful postwar selling was emphasized to Crosley dealers here recently in a talk by Bert Johnston, director of the company's store modernization program under Sid Mahon, advertising and public relations head.

Eighty-four radio and appliance dealers handling the Crosley line met at Buhl Sons Co., Crosley distributor for this area, to hear Mr. Johnston's outline of store layout and sales promotion ideas, and to ask questions of their own when he had finished.

SELLING, NOT MANUFACTURING, IS THE BIG JOB

The big job facing the appliance industry, Mr. Johnston pointed out, is going to be selling. Not manufacturing—the war has brought out better production methods than ever before. And not transportation—the war has streamlined that function, too.

But effective selling, confronted by a strongly competitive field that will see new products, new manufacturers of established products, and new retailing outlets hungry for the postwar appliance market, is going to have to start almost from scratch. "That much is no news to you," he continued. "But remember that the independent dealer hasn't either

the money or the facilities for finding out how this competition is setting itself up, and how to meet it."

A manufacturer is able to search out these facts, he stated, and then outlined the results of Crosley's study of the problem:

IDEAS ON STORE DISPLAYS SUGGESTED BY SURVEY

1. Put your merchandise within reach of the customer. Put it where he can see it at close range, touch it, convince himself through as many senses as the merchandise itself can appeal to.

Common sense dictates a few exceptions, but the rule stands that, given a chance, the customer who sells himself on something is really sold.

2. Use store fixtures that are movable, flexible, interchangeable. When that is so, departments with less seasonal merchandise can be condensed in favor of those carrying bigger current values.

The best basic fixture, Mr. Johnston disclosed, is a table or blocked-in stand measuring 5 ft. x 2½ ft. x 2½ ft.—a unit allowing a variety of multiple combinations. With it can be used glass dividers, rails, standards, and shams for raised displays.

For refrigerators, ranges, console radios, and the like, a platform 5 ft. x 2½ ft. x 3 in., serving as an island, is preferable to displays banked against a wall. Wall shelving should be equally flexible.

3. Plan your floor layouts in terms of straight aisles. Sales run high only with uninterrupted traffic flow. And not too many cross aisles; they distract attention.

KEEPING SHOPPER INTEREST

Place your best selling items and specials at the far end of the aisles, where customers will have a chance to see other merchandise along the way.

Keep constant shopper interest by changing displays and shifting merchandise locations within departments. The mail order houses and big department stores stress this policy. Departmental managers spend many nights planning and moving their stocks.

One of them was still on hand at 9:00 one morning, Mr. Johnston recalled, when a perplexed old lady came up and asked where she could find the drug department. He started to point it out, stopped short, trying to remember its latest location, and finally gave up altogether.

"If you'll just stand here for a few minutes, Madame," he assured her, "it's bound to come along this way any time now."

The fundamental ideas Mr. Johnston had outlined will be sent to all Crosley dealers in a few weeks' time, he told them. Called "The Fundamentals of Store Planning and Sales Promotion," it is meant not just for Crosley appliances but for all goods, presenting ideas for complete store merchandising.

FLOOR PLAN ASSISTANCE OFFERED TO DEALERS

For dealers who want detailed information on store modernization, who are planning to enlarge their stores after the war, or remodel or build further, Crosley plans to prepare booklets and kits for blueprinting their floor plans, and for setting up specific promotions around special events.

A dealer should run off three major promotions a year, he illustrated—one in the spring, another in the fall,

and one at Christmas. He should plan on six minor promotions, linked up with season openings, holidays, Mother's and Father's Days, and the like. The cost for these detail outfits will be \$40, which will cover any supplementary material issued during the year following.

Jack Morey, manager of Buhl Sons' appliance department, closed the meeting with a word on appliance production in the near future.

"Don't wait until the end of the year to set up your facilities for handling ranges and refrigerators," he advised. "They are not as far away as present war censorship seems to imply."

DISTRIBUTOR URGES DEALER PREPAREDNESS

"This company will have 86 trucks ready to get appliances to you when the word comes. Be ready for them just in case major appliances begin to come through in October or November or December. Don't sell yourselves short."

The Detroit meeting, explained Mr. Mahon after its conclusion, is the second one in opening the campaign toward helping dealers get ready for the postwar market. The first meeting was held in Chicago, and from here he and Bert Johnston will return to Cincinnati to go over the results before launching the program on a nationwide basis.

WANTED

Sales Executives and Salesmen for Industrial, Commercial and Residential Divisions


An excellent opportunity to join one of the larger light and power companies with a successful past and a good future

Age limit 25 to 40. In first letter please give complete information about training, experience, salary expected, and how soon available.

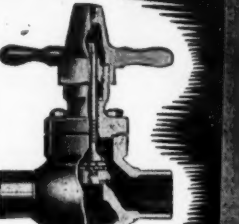
All replies held in confidence. Our salesmen know about this advertisement.

Box 1753

Air Conditioning & Refrigeration News



Wing Cap Valve . . .
TYPE 203



NON-FERROUS ALLOY MEETS GOVERNMENT SPECIFICATIONS
Solder connections machined directly in valve body. Has patented rotating self-aligning stem-disc. Resilient packing. Valve is back-sealing, permitting repacking under pressure. Wing cap can be inverted and its socket used to operate valve. Cap sealing on bonnet provides additional protection against leaks. Unrestricted flow.

For Freon and Methyl Chloride

HENRY VALVE CO.
1001 19th St. S. PAULDING AVE.
CHICAGO, ILLINOIS

THE PHILCO FREEZER CHEST WILL BE BIG BUSINESS

in your community!



UNIT VOLUME, dollar volume, profit volume! That's the promise of Philco to aggressive dealers who line up with Philco in selling home freezer units.

For Philco is all set to give high-powered backing to dealers. And it will be double-barreled backing. First, there'll be the complete line of Philco Freezer Chests . . . in sizes to meet the needs of any prospect . . . incorporating the advanced engineering and high quality that have become

traditional with Philco. Second, these freezer chests will be advertised and merchandised in the well-known, spectacular, sales-getting Philco manner.

Yes, Philco intends to make the sale of Philco Freezer Chests big business . . . everywhere. Dealers are now being appointed. The signal for manufacturing to start may be flashed at any moment. Will you be ready with a big-profit-making Philco franchise?

PHILCO Famous for Quality the World Over

TRUCK
Immediate Delivery
Rubber Tired Wheels

Now! "Handee Andy" all purpose tube steel 600 lb. cap. Full size, first quality, not a wartime makeshift. Light wt. very easy to handle. Ht. 44" 14" wide at nose. Curved cross pieces. The only truck we sell. Specializing permits a better truck, and more of them! By mail only at present time. Fully guaranteed. F.O.B. 15% 10 days. Unrated firms cash with order. AA5 will assist immediate delivery. Clip this.

9.95
Lots of 12
Lots 3, \$11.95
Single, \$12.95

The HANDEES CO., Dept. 25E7 Bloomington, Ill.

In the West it's
REFRIGERATION SERVICE INC.
Pacific Coast Supply Jobber
since 1928

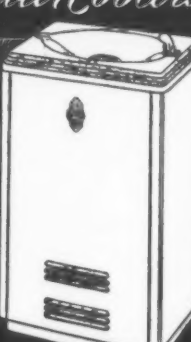
Your letterhead will bring our latest catalog—also our House Organ.

"The Liquid Line"

3109 Beverly Blvd.
LOS ANGELES 4, CALIF.

The Newest and Finest
ELECTRIC WaterCoolers

ALL SIZES FOR NAVY and LAND USE



THE REVELATION CO.
L. E. KARPEN
101 San Fernando Rd. Los Angeles 41, Calif.

Ask Your Jobber for
HASCOBILT Parts

SUCTION and DISCHARGE VALVE, DISC, REEDS and SPRINGS for Conventional and Hermetic Type Compressors

HASCO, INC.
GREENSBORO, N. C.

If your jobber can't supply you, send for illustrated catalog and price list.



They're Bosom Pals at Lehigh!

Starting with the big electric furnaces, and going straight through to precision machining, assembly, and testing, Lehigh is distinctly a quality plant with no peer in America. When coupled with Lehigh's mass production capacity you have a real leader in compressor manufacturing—one worthy of your highest expectations and confidence.

M&E
EST. 1888

REFRIGERATION DIVISION OF

LEHIGH FOUNDRIES, INC.

EASTON, PENNSYLVANIA
Plant: Lancaster, Pa.

To be Available
A COMPLETE LINE OF
COMMERCIAL COMPRESSORS
1/4 to 5 H.P.



REDUCE YOUR OPERATING COSTS WITH THE "LITTLE GIANT" PURGER

The "Little Giant" Purger is an essential item and a profitable investment that quickly pays for itself because:

- It reduces power costs
- It saves expensive refrigerant
- It reduces wear and tear on equipment

When non-condensable gases are present in a refrigerant system, it will operate at higher pressures than it would if these gases were not present. Unnecessarily high pressures result in the compressor being subject to:

- Higher bearing loads
- Higher discharging temperatures
- Increased wear on moving parts
- Greater power consumption

It is particularly important that the refrigeration system be purged after a shut-down period of any considerable time. The usual practice is to pump the refrigerant back into the receiver and lock it in by means of valves. Repairs or alterations are made on the system during this time, and it is practically impossible to evacuate the system completely, with the result that the remaining air will cause excessive head pressures.

HERE ARE THE ADVANTAGES OF PURGING WITH THE "LITTLE GIANT" PURGER:

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Servicing Frigidaire Open-Type Systems

Instalment No. 13

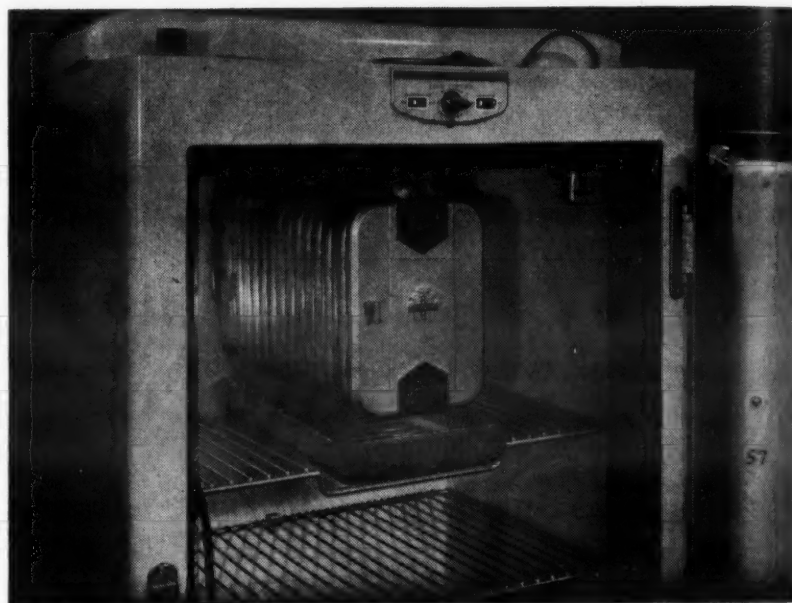
Editor's Note: This completes the series of articles which started in the Dec. 18, 1944, issue of the News giving authentic information on proper servicing methods for Frigidaire household refrigerators using open-type reciprocating condensing units. The material was prepared through the cooperation of the service department of Frigidaire Division, General Motors Corp.

51—Service Operations Common to High Side Float System Only

On approaching the end of this series remember that there are two service operations which are common to the high side float system only.

In addition to the operations we have illustrated, there are two which are entirely unrelated to the low side float system. These operations concern the thermostatic switch and the intermediate pressure valve, which are found on the high side float system.

52—Replacing Thermostatic Switches

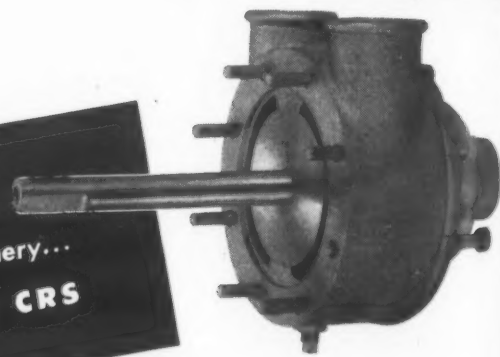


Most service men are reasonably familiar with the thermostatic type of control and how it functions by relaying the signal to cut in and cut out through freezer temperatures rather than through the medium of refrigerant pressure. The operating temperatures are regulated solely by means of a knob on the thermostatic switch, located in the cabinet.

In case a switch is found inoperative and must be replaced, remove the knob and the plate behind it. Then, after disconnecting the wiring and freeing the switch, remove the bulb from the freezer by taking out the retaining screw. Then replace the switch with a new one.

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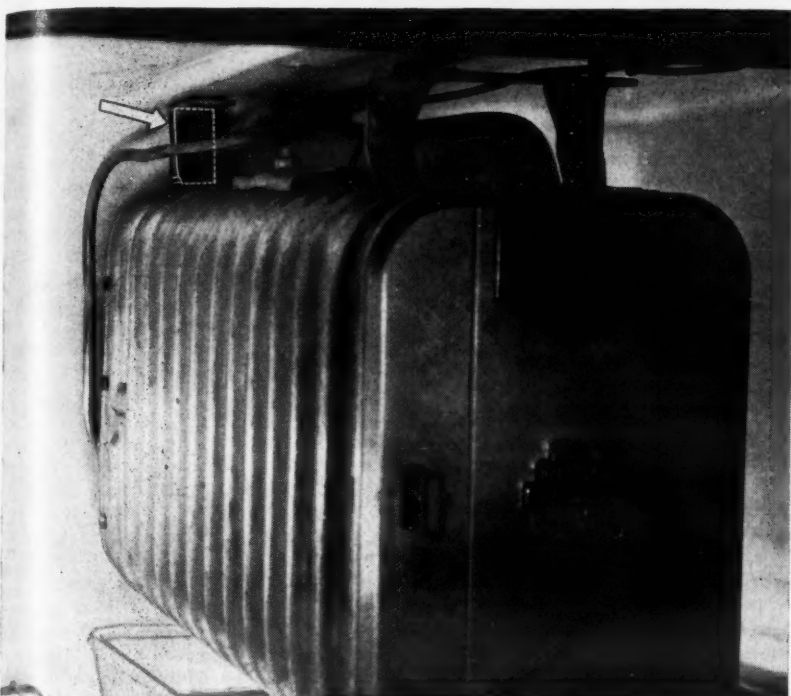
Write for Model S bulletin.

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Servicing Frigidaire Systems

53—Replacing Intermediate Pressure Valve



As illustrated here, the intermediate pressure valve is located in the liquid line near the inlet to the freezer. Being a weight type valve, its function is to impose a pressure upon the refrigerant down to the float, thus keeping the refrigerant in a liquid state and preventing the frosting of this line.

It can be seen from this, that should the valve stick open, its function would be disrupted and line frosting would occur. If it should stick shut, however, the result would be a total lack of refrigeration. In either case, replacement of this valve would be necessary, which is accomplished in the following manner:

First, install gauges and close liquid line valve. Then pump refrigerant from freezer and liquid line. When gauge registers a 20 inch vacuum, raise pressure to 1/2 lb. by opening liquid line valve.

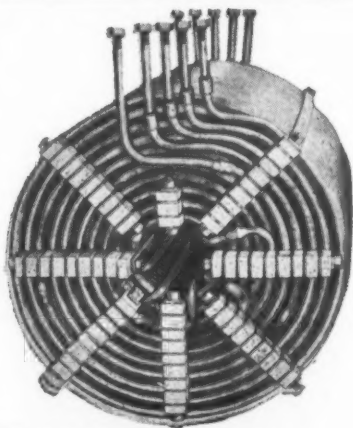
With these preparations, service man is now ready to replace the intermediate pressure valve itself. This valve has soldered connections, which must be loosened by the use of a soldering torch. After removing the intermediate pressure valve, a restrictor of the proper type should be soldered back in its place. This will operate equally well, and, by having no moving parts, is not subject to the difficulties experienced with the intermediate pressure valve. It will be noticed in the illustration that the front of the freezer has been let down. The reason is to afford more space for working on the valve.

This brings up the suggestion that since the operation of replacing intermediate pressure valves entails a considerable amount of work, to be sure the valve is really inoperative before replacing it. Keep in mind that the same symptoms are present in the case of either a stuck float or a shortage of refrigerant.

Just one more thought—remember that it pays to be sure before you act. Don't undertake any service operation until you have made a diagnosis and are certain that this diagnosis is correct. And don't proceed until you are sure of every step you are going to take. Then do the job intelligently, accurately, and thoroughly. It's worth the effort to do the work well.

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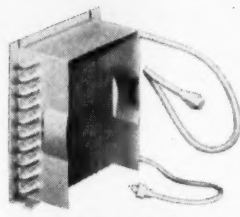
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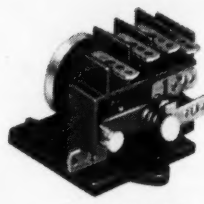
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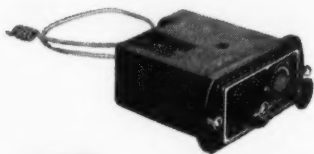
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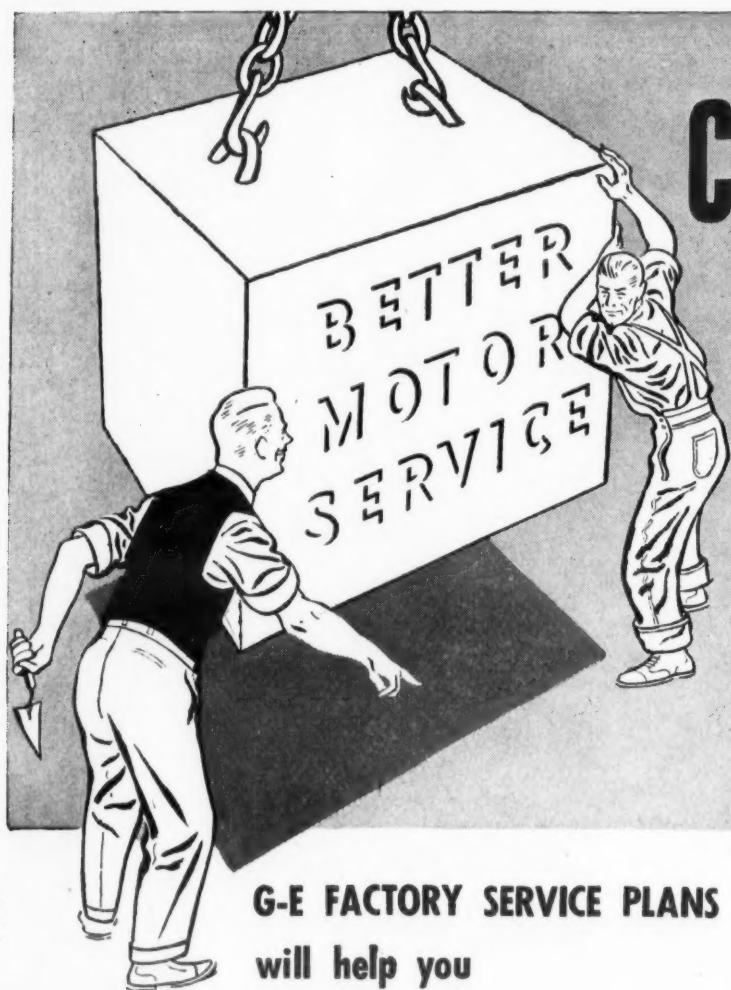
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How Does Installing & Servicing Sealed Units Differ from Open-Type Machines?

Carl Olin of Servel Tells RSES Group That Recent Trend To Hermetics Can Mean Wider Use of Refrigeration

ST. LOUIS—At the first of a series of meetings which are being held by the Refrigeration Service Engineers Society to acquaint refrigeration repairmen with recent developments in the field, Carl Olin, assistant sales manager of Servel's Electric Refrigeration Division, discussed hermetic units designed for commercial and air conditioning applications before the St. Louis chapter of the society.

"To the uninitiated the hermetically sealed unit can be baffling, for, since there are no revolving parts visible except the fan, the usual basis for spot inspection cannot be applied," declared Mr. Olin.

But examination of a cutaway view of sealed power units will show that they are made up essentially of the usual motor and the more or less conventional compressor, mounted within a sealed housing, he explained.

Except for the fact that the condenser fan is mounted on a separate motor operating simultaneously with the power unit, the balance of the hermetic unit is likewise similar to that of a conventional open-type machine, Mr. Olin said.

Most of the hermetics employed for commercial or air conditioning applications are equipped with shut-off valves of somewhat conventional design which permit testing and checking operations in about the same manner as done on open machines, he added.

SERVICING MUCH THE SAME

"In other words, the approach from the refrigeration service engineer's viewpoint in the application of the unit or diagnosis of trouble is much the same as with belt-driven type equipment," he emphasized.

Mr. Olin likened the trend toward hermetic machine design to the practice of automobile repair operations of the past several years. Instead of the motor mechanic's trying to repair such accessories as water pumps, fuel pumps, or carburetors, he replaces them with a new or already reconditioned assembly. This permits the actual repair or rebuilding of these parts to be carried on in a factory under production line methods.

"The advent of the hermetically sealed condensing unit has made it possible for the commercial and air conditioning industry to utilize similar practices, which, for the economy and efficiency they make possible, can result in the more widespread use of mechanical refrigeration," averred Mr. Olin.

Servel, he said, has developed a design and maintenance plan based on exchanging complete accessories and sub-assemblies, such as the power unit, to apply when extensive repairs are required.

An analysis of Servel's "Supermatic," from the standpoint of design, application, and service problems that may be encountered was then presented by Mr. Olin.

The compressor in the sealed unit is of the familiar reciprocating type, with the crankcase or power unit

casing being on the suction side, he said. Suction gas is drawn through and around the motor, aiding in keeping the motor cool, he pointed out.

Mufflers are placed on both suction and discharge to make for quiet operation. Discharge is through the muffler and directly to the condenser.

Moving parts of the unit are protected by a screen mounted at the suction shut-off valve, and the design of the suction muffler offers additional protection, according to Mr. Olin.

Force-feed lubrication is employed. In the smaller sizes oil reaches the bearings under pressure by means of a screw-type pump, which is fed by a cushioned oil ring slowly revolving in the crankcase oil. Main bearings, connecting rod bearings, pistons, and piston pins (through drilled connecting rods) are lubricated as the screw-type pump forces oil through the drilled crankshaft.

Condensing units of 1-hp. or larger have a piston-type oil pump to circulate greater quantities of oil. This pump is operated off a "throw" on the crankshaft.

"Returning the suction gas, as we do, with its entrained oil through the motor results in almost perfect mechanical separation of the oil from the refrigerant gas," declared Mr. Olin. "Residual motor heat results in further distillation, minimizing any tendency to slug oil even under most adverse conditions."

DIFFERS ELECTRICALLY

Mr. Olin admitted to the R.S.E.S. group that with the hermetic unit, more care and attention must be given to the electrical circuit and electrical accessories than is required for conventional belt-driven machines.

If low voltage or some other deficiency develops in the open type motor, the effects can be seen readily, and without resort to electrical test apparatus, he said.

"Not so, however, with the sealed unit," declared Mr. Olin. "Here, low voltage shows up simply as a 'cut-out' at the time the control 'calls for unit operation,' a condition that is also a symptom of one or more other causes of difficulties."

Servel units, however, employ capacitor start-induction run motors which are about the same as the single-phase motors used on most open-type machines, said Mr. Olin.

"Aside from the obvious differences in the lubrication of the motor bearings, the principal difference is in the switching mechanism converting from the starting windings to the running (or main) windings," he explained.

"In the conventional open-type motor this is usually accomplished through a centrifugally operated switch—strictly mechanical—whereas in the Servel 'Supermatic' this is accomplished electrically through a relay, known as a voltage type."

The starting capacitor is connected in series with the starting windings.

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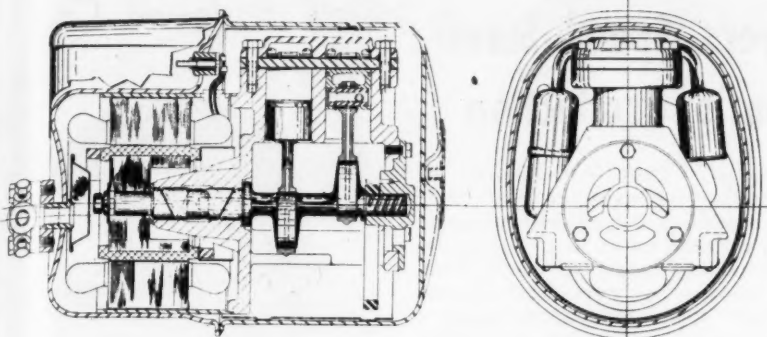
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Cutaway View of Servel 'Supermetic'



From the outside a hermetic unit may appear baffling, but inside, if you look at a cutaway view such as the above, you will observe that essentially, it's made up of the usual motor and a more or less conventional compressor, mounted in a sealed housing, explains Carl Olin of Servel.

Hermetics Require Clean Systems

(Concluded from preceding page)

being connected between the relay and the "starting winding" terminal, he said. Included in the circuit is a combination thermal and current overload protection switch that differs slightly from that found in many open machines. A rise in temperature or an increase in electric current beyond limits will cause this switch to break the circuit and stop the motor. As this switch cools off, it will reset automatically, but if the overload persists, it will again break the circuit.

STARTING CYCLE

"When the temperature or pressure control 'calls for' operation, both starting and running (main) windings of the motor are energized simultaneously," he explained.

"As the motor comes up to speed (a matter of seconds), the generator effect causes voltage rise in the starting windings, which, on reaching a pre-determined value, energizes the starting relay coil, causing the starting capacitor and starting winding to be 'cut from the circuit.' The motor then proceeds to operate as a straight induction motor on the running or main windings only.

"Once the unit completes an operating cycle, the relay contacts for the starting windings, having been returned to a 'closed' position, will permit restarting as required, in the above sequence."

In discussing applications of the Servel hermetic unit, Mr. Olin placed special emphasis on the necessity for the system's being clean and dry.

The probability that these units for the next year at least will go into new installations only, either in self-contained fixtures or remote jobs, does not alter the necessity of having the systems clean, he said.

"The inclusion of a Silica Gel dehydrator in the liquid refrigerant line is good general practice, but this cannot be expected to do the

entire job of removing residual moisture," he emphasized.

"We have always recommended an auxiliary vacuum pump be used to remove air from the system initially, and in many cases this operation can be utilized to remove moisture also.

"If heat is applied over the system during the period a deep vacuum is being maintained, moisture will be evaporated and the system rather effectively dried out. For more complex circuits or for lower temperature applications, it is preferable to use dehydrated hot air, drawing this through the entire system from the expansion valve to the power unit.

"When considering an old installation, any reference to 'cleanliness' or to removing 'foreign matter' includes removing all trace of the original refrigerant and refrigerant oil as well as any residual matter which would contaminate the system," added Mr. Olin.

(The Servel hermetic line uses "Freon-12" as the refrigerant.)

Such an operation can best be accomplished by circulating an approved solvent through the evaporator and connecting tubing, with a standard all-brass circulating pump, and then removing traces of the solvent by evacuation, using an auxiliary vacuum pump, he advised.

CAN'T SHORT-CIRCUIT CLEANING OPERATIONS

"Whereas such practice should have been followed as a standard practice regardless of the type of unit involved, we know in many cases it was short-circuited with the hope that no ill effects would develop," Mr. Olin declared. "Such negligence, however, simply cannot be tolerated when installing a hermetically sealed type unit."

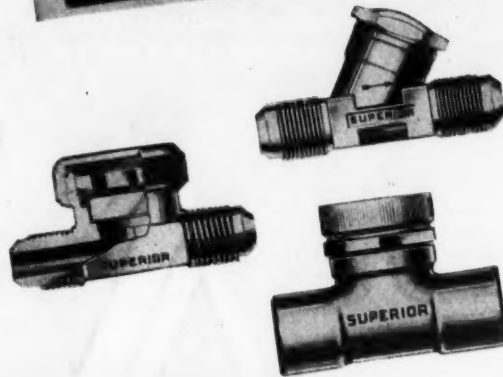
Following use of the solvent, the system should be dehydrated by the vacuum-and-heat method previously described, and a Silica Gel dehydrator installed in the liquid refrigerant line, he said.

In operation the Servel hermetic will not encounter such troubles as seal leaks and broken or slipping belts, but a number of service complaints encountered on open-type units will also occur on hermetics, he warned.

"If the unit will run, the old rule of applying gauges as a first operation most certainly holds as true as it has in the past. Checking for low charge, leaking discharge valves, stopped-up expansion valve or capillary, is to be performed in the same way as these faults have been traced in belt-driven units.

"If the unit will not run, the electrical accessories can best be tested by the use of a 'test accessory' set or harness, and by elimination, the specific accessory at fault can be identified," said Mr. Olin.

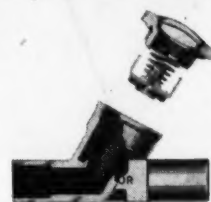
"It goes without saying, if the unit is 'off the overload,' the cause of that condition must be traced and corrected. For example, it may be due to a short in the running capacitor or open circuit in the starting capacitor, etc."



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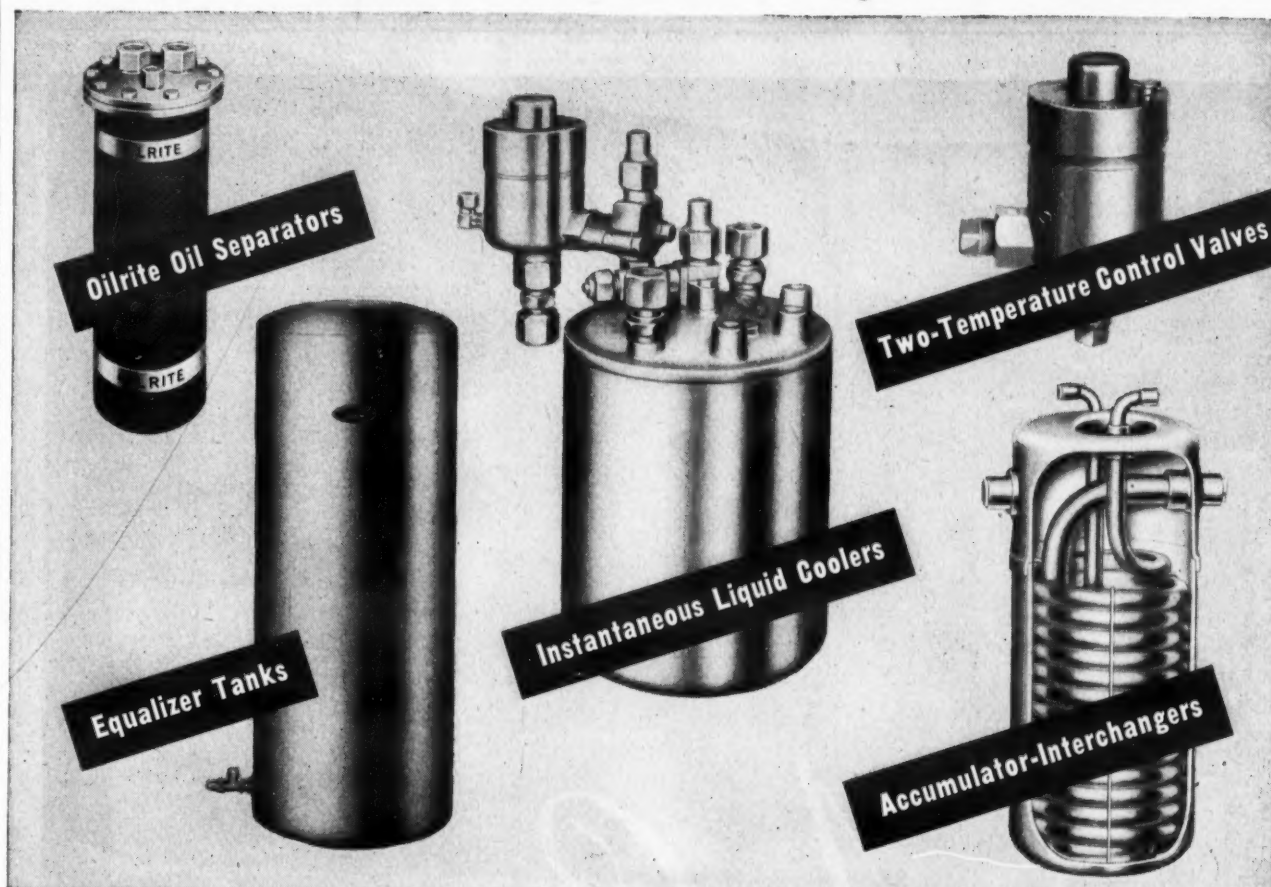
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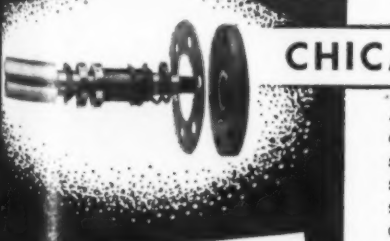
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Portable Infra-Red Dryers Speed Small Plant's Production

FRESNO, Calif. — Production of commercial refrigerators, air conditioning units, and ductwork has been vastly speeded up at H. C. Bradshaw Co. here, refrigeration contractors, with the use of portable infra-red ray paint dryers built in the plant.

The company formerly a service and engineering firm, has recently gone into manufacturing, including a number of specialized farm refrigerators important to San Joaquin Valley fruit growers. Until April, a serious snag in production with these units was the 48 hours or more required to dry paint or enamel surfaces, which often tied up much of the manufacturing space.

To solve the problem, H. C. Bradshaw, president, designed four mobile drying units which consist of 2 x 4 lumber frames mounted on rolling caster wheels. A typical unit is 6 feet high by 3½ feet wide, consisting of four 2 x 4's on which are mounted sockets for fifty 250 watt, 115 volt infra-red ray bulbs. Porcelain frames and heavy No. 7 wiring were used for the bulbs, which are connected to a switch box at the rear of the frame which contains 10 switches—multiple types which permit any combination of banks of bulbs to be used. The frame is braced on its platform so that it may be tilted if necessary to direct infra-red heat at several angles.

When a newly completed air conditioning unit or large refrigerator is painted, one or more of the infra-red dryers is wheeled into position to dry the undercoat.

Putting out 24,975 B.t.u. of dry heat, the unit can perfectly dry the undercoat in 20 minutes. Then the final coat is sprayed on, and is dried in approximately 10 minutes. Ordinary enamel can be dried in four minutes under full heat from the portable units, although it has not been necessary to force drying to this extent.

In addition to the unit described above, the Bradshaw Co. has built two more, one a small 3 x 3 foot frame with 18 bulbs which can be used inside large cabinets, and a huge 6 x 8 foot dryer which mounts 110 bulbs and will be used to dry extremely large refrigerators, putting out more than 50,000 B.t.u. All are powered from a transformer hookup on the wall near the paint shop, utilizing three-phase and a single phase service. 220 volts and 440 volts are split up on high load cable in the three wire circuit. Any combination of heat can be applied by using two or more units and restricting the number of bulbs in use. Costs for the first unit described were approximately \$225.

"We've found these portable units ideal for high speed painting and getting the boxes out of the way," Mr. Bradshaw summed up. "Not only have they cut the time required for delivery down to a bare minimum, but they have also removed the danger of explosion and fire prevalent in using quick-dry lacquers and paints. Finish on every refrigerator and conditioning unit will remain handsome much longer as well."

Electrochemicals Names Tucker To Coast Job

WILMINGTON, Del. — Appointment of Albert R. Tucker to the newly created position of West Coast manager of the Electrochemicals Department, E. I. du Pont de Nemours & Co., is announced by F. S. MacGregor, general manager.

The El Monte plant and sales office at El Monte, Calif., and the district sales office at San Francisco, will be consolidated.

Art Reed To Represent Clark Bridgman Co.



ART REED

DETROIT — Art Reed has been appointed to represent the Clark Bridgman Co. of Chicago in a Michigan, Ohio, and Indiana territory, with headquarters in Detroit. The Clark Bridgman Co. is the representative for the Bush Mfg. Co. in the Midwest.

Mr. Reed is a veteran sales engineer in the commercial refrigeration field, starting out with Frigidaire in Springfield, Mass. in 1925, where he worked as a sales engineer and assistant service manager. In 1931 he joined Frigidaire's Boston branch, becoming district commercial representative for the state of Connecticut, and later sales manager of the first air conditioning department.

In 1936 he went with General Heat & Appliance Co., Boston, as district sales manager, and in 1939 joined Cherry-Burrell Corp., dairy equipment firm.

Blast Freezing Data Is Issued by Carrier Corp.

SYRACUSE, N. Y. — A 16-page illustrated brochure covering the subject "Blast Freezing of Foods" has just been issued by Carrier Corp.

New markets and volume-production potentials that will come from blast freezing and reviewed in relation to meat packers, fisheries, fruit growers, dairies, poultrymen, wholesale grocers, locker operators, ice cream manufacturers, restaurants, etc.

Detailed descriptions are given of Carrier's suspended blast freezers and other equipment.

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Army Refrigeration Problems

By P. B. Reed

Manager, Refrigeration and Air Conditioning Division, Perfex Corp.



Determining the Product Load (1)

In addition to the heat that leaks through the walls of a refrigerator, heat is introduced into the refrigerator with the product that is placed in the refrigerator; meat, fruits, vegetables, etc.

If the product is precooled to the same temperature as that of the interior of the refrigerator there is usually no heat to be taken from it. If the product is quite warm a lot of heat will have to be taken from it in order to cool it down to the temperature of the interior of the refrigerator.

When we refer to "product" we usually think of food, but the product does not necessarily consist of food. The product may be water (as in the case of water coolers), flowers, furs, rivets, sheet aluminum, or any other product stored or cooled in the refrigerator cabinet.

WEIGHT, TEMPERATURE DIFFERENCE AND SPECIFIC HEAT

The amount of heat introduced by the product into the refrigerator and which must be removed by the refrigerating equipment, depends on:

- (1) The amount of product.
- (2) How much warmer it is than the interior of the refrigerator.
- (3) The nature of the product.

If we find how much heat must be removed from the product in order to cool it down to the temperature of the interior of the refrigerator, we have what is known as the "product load."

It is evident that the more product is placed in the refrigerator the more the heat that must be removed. The product load is therefore proportional to the amount of product to be cooled and/or stored. Twice as much product requires twice as much cooling; one-half as much product requires one-half as much cooling.

The temperature reduction also determines the product load. The more that the product must be cooled, the greater will be the prod-

uct load and consequently the greater will be the amount of refrigeration necessary to cool it.

Thus the product load is proportional to the temperature reduction—that is, the temperature difference between the warm product put in the refrigerator and the temperature to which it is cooled.

Cooling a can of milk, for example, from 90° down to 40° (a 50° reduction or temperature difference) causes twice as much product load as cooling the same amount of milk from 65° to 40° (a 25° reduction).

WEIGHT AND TEMPERATURE DIFFERENCE ONLY

To illustrate the effect of these two factors, the amount of product and the temperature reduction, let us take as an example a refrigerator, the interior of which is held at 40°, and in it we will place a tin can of water at a temperature of 70°. A gallon of water weighs approximately 8½ pounds, and we wish to cool it 30° F.

The definition of a B.t.u. is that it is the amount of heat given off by 1 pound of water being cooled 1° F. or, conversely, it is the amount of heat that must be added to 1 pound of water in order to heat it 1° F. So cooling 8½ pounds 1° will require the removal of 8½ B.t.u. and if the 8½ pounds are cooled 30°, 250 B.t.u. will be given off (8½ × 30).

SPECIFIC HEAT

The amount of heat to be removed per pound in order to cool a product 1° is not the same for all substances. Water is the standard—1 B.t.u. per pound per degree F. Other substances are less than water.

Nine-tenths of a B.t.u. is all that must be removed from 1 pound of average milk to cool it 1°. For lean beef only .78 of 1 B.t.u. must be removed to cool 1 pound 1°. For

fresh fish the figure is .76, apples .71, potatoes .79, etc. These figures are called the "specific heat," and vary according to the particular substance.

In general, they are high for foods or materials having a high percentage of water content and low for others having a low percentage of water content, but not in the same proportion, that is, a food having a water content of 70% does not have a specific heat of .70 B.t.u. per pound per degree.

EXAMPLE—500 POUNDS OF BEEF

If 500 pounds of fresh beef is brought from the packing house at 40° and put in a refrigerator held at 40°, no product load is added. If, however, the meat comes from a farm slaughter house and has not been precooled but has come to a room temperature of 90°, then it must be cooled through 50°, from 90° to 40°.

The amount of cooling required simply to cool the meat 50° (the product load) would be 500 pounds x 50° x .74 (specific heat of average beef) or 18,500 B.t.u.

If we expected to cool this beef down to 40° in 24 hours with the condensing unit running 16 hours out of the 24, the product load only per hour would be 1,156 B.t.u.

If this were the only warm product put into the refrigerator during the 24 hours—if it is the total product load—then the condensing unit would have to have a capacity of 1,156 B.t.u. per hour more than would be necessary than to simply remove the heat leakage.

In other words, 1,156 B.t.u. per hour or 18,500 per 24 hours product load would have to be added to the heat leakage load. (To both of these loads would have to be added the "Service Load," of which more later.)

NEGATIVE PRODUCT LOAD

If the 500 pounds of beef were delivered at 35° to the 40° refrigera-

tor not only would there be no product load but actually the beef in warming from 35° to 40° would take one 1,850 B.t.u. per 24 hours. This could be subtracted from the required 24 hour capacity of the refrigerating equipment.

In this case the cooling effect of the product (a negative product load) would be disregarded for it would simply mean that the machine would run an hour or so per day less. In cases of large cold storage rooms, a negative product load might have to be taken into consideration in determining the total load, especially if the product load were over one-half of the total load—in other words, greater than the heat leakage load plus the product load.

WATER COOLING—NO SERVICE LOAD

In the case of water cooling, there is no service load, so the total load is the heat leakage load plus the product load. Thus the heat leakage of the cabinet (and of the insulated lines if any of the cold water outlets are removed from the water cooler) plus the product load (consisting of the pounds of water-cooled, times the number of degrees it is cooled) will constitute the total load.

Care must be taken in computing the water load, to select the equipment to give sufficient capacity per hour to take care of peak usage of cold water per hour or for whatever length of time the peak usage continues, unless there is a reserve tank of sufficient size, or unless an ice bank is built up, to accommodate the peak usage.

(To Be Continued)

In Frigidaire Post



HOWARD E. VAN SCOYK

DAYTON, Ohio—Howard E. Van Scoyk has been appointed assistant service manager of the technical division of the Frigidaire service department, announces Service Manager Paul V. Sprout.

Mr. Van Scoyk has been a member of the Dayton General Motors organization since 1928, when he served with Delco Products. He joined Frigidaire in 1929, and until promoted was a division engineer.

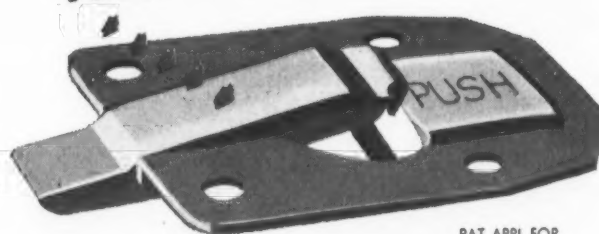
E. E. Landis will continue as assistant manager in charge of the field contact and service parts sales, and other departments associated with the office, inventory control, shipping, and cataloging.

CUT MAINTENANCE TIME WITH THE NEW HARTWELL FLUSH DOOR LATCH



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PRESS and it's locked shut!



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Designed for use on combat planes, the Hartwell flush latch speeds the opening and closing of access doors. It can be used on metal, plastic or wood, and on doors of varying sizes and thicknesses. It can also be used on cover plates, cabinet and locker doors and flush fixtures. The Hartwell flush latch is made of stainless steel, and can be supplied unmounted or spotwelded to an installation plate.

For detailed information about uses and adaptations of the new Hartwell flush latch, write: Engineering Department, Hartwell Engineering Company.

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The "Wisteria" carries a staff and crew numbering 344. Now in active service, the ship has already been made famous by radio broadcast and magazine articles.

Frick "Eclipse" compressors are built with 3, 4, or 6 cylinders. Ask for your copy of Bulletin 100, telling how these superior Freon-12 compressors handle air-conditioning, water cooling, food storage, and similar refrigerating work.

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Cornell Chief Says Zero Storage Facilities 'Everywhere' Key To Frozen Foods Success

ITHACA, N. Y.—"I can't really get so excited about this new art of freezing food, for after all, it's only cooking in reverse and nobody gets excited about cooking! What I get excited about is the extension of the facilities which will make frozen food available to everyone and the improvement which can be made in the human diet when these facilities have been provided."

So declared H. E. Babcock, chairman of the Board of Trustees of Cornell University, at a recent luncheon honoring Gov. Thomas E. Dewey and marking the opening of the new "Mother Zero" frozen food locker plant here.

Tracing the development of food freezing, Mr. Babcock told how he had first heard of this new art in the early '30's from Dr. Donald Tressler, then at the Geneva Experiment Station. A trip to Washington to get Federal aid in promoting research at Cornell proved fruitless, because, said Mr. Babcock, the government was worried only about farm surpluses.

With grants from private industry and utilities, plus the loan of equipment by manufacturers, Cornell began its studies of frozen foods. He related that through his "needling" Danner Bierhaus had designed the first farm freezer to be made commercially, and that Emil Steinhorst & Sons of Utica, N. Y., had put it in production. At the present time,



Gov. Thomas E. Dewey of New York, who dedicated the new "Mother Zero" locker plant at Ithaca, N. Y., gets some pointers on poultry processing from H. E. Babcock (right) as Dr. Edmund E. Day, president of Cornell university, looks on. Gov. Dewey called the plant a "pioneer . . . blazing a trail in nutrition."

Mr. Babcock emphasized, he is chiefly interested in the uses to which frozen food is put.

"The key to the use of frozen food is zero storage," he said. "I like the term zero storage because, whether it proves to be technically correct or not, it does clearly differentiate between the kind of storage, zero or below, which is required to keep frozen food safely, and ordinary cold storage."

"Ordinary cold storage in itself is a great industry. In this community, for example, it begins with the refrigerated egg truck which picks up eggs around here and delivers them to New York and it ends with the ordinary household refrigerator in some apartment house in Brooklyn to which a half dozen eggs are delivered."

"Without the almost universal availability of cold storage or refrigeration our diets could not be nearly as good as they are, nor could our great milk, poultry, and meat industries exist. The principal function of cold storage has been, and will continue to be, to keep fresh foods from spoiling before they can be used up. At best, it is a relatively short term proposition," he averred.

"Zero storage is quite a different proposition. It is to frozen food what the tin can and the glass jar are to the canning industry. If frozen food, with its proven health giving qualities, is to become universally available, zero storage must be built everywhere. It must be available the minute food is frozen. It must be built into units of transportation. It must be provided in community warehouses. It will have to become a part of the equipment of retail stores, of hotels and restaurants, and finally of every well run private home."

"The vision of the enormous cubage of zero storage which must be built in America thrills me. The problem of how much zero storage should be built and where to build it confounds me. I am not alone in my confusion. Don't be misled by the brave circulars of the companies which propose to build zero storage, postwar, whether in the form of a farm freezer, a community locker plant, or

a two-temperature refrigerator.

"The gentlemen who are putting out this literature are just scared to death," asserted Mr. Babcock. "The don't know where the center of gravity for zero storage cubage in this country is finally going to come to rest."

"Will it be in private homes, in retail establishments, in great community plants like the conventional cold storages, or will most of it be at the points where foods originate and are frozen? These are questions which only time and experience will answer."

"Time and experience are needed for the simple reason that no one can look into the mind of the American housewife and read her longtime reaction to the use of frozen food. Even if we could, there would be no guarantee that she wouldn't exercise her womanly prerogative and change her mind."

"It seems therefore that the only practical thing to do is to take some community—and this one here is as good as any other—fill it up with all kinds of zero storage, make available as much freezing apparatus as the community will use, ship in the maximum amount of frozen foods it will absorb, and sit back and see what happens," he said.

"What happens will be of great national importance. It should be possible to learn enough fast enough to prevent a lot of mistakes. It should also be possible for an alert research staff to pick up innumerable leads for improvement in every phase of food freezing and zero storage."

"With the integrity of such observations protected by the reputation of a great educational institution, and with the findings immediately made public, everyone interested in frozen food from the farmer who grows it to the consumer who eats it should benefit."

"The project we are launching here today proves that cooperative and corporations can work together—that the common citizen is willing and capable of making his contribution. All we need is to get something practical underway, something which will definitely tie better agriculture to better diet."

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Joins General Tire



MAX GILMAN

Gilman, Former Packard Head, Joins Tire Co.

AKRON, Ohio—Max M. Gilman, former president of the Packard Motor Car Co., has joined The General Tire & Rubber Co., it was announced last week by William O'Neil, General president.

"Mr. Gilman will study the post-war market potential with a view of adding allied products to General's merchandise line after the war," Mr. O'Neil said.

"In order that we may be prepared as soon as reconversion to peace time products is permitted, we are adding Mr. Gilman to our staff to work out an over-all program for the company and its distribution outlets," said the General Tire president. "He has had a long and successful career in both production and distribution and for many months has been studying the consumer demands in the postwar era."

"This move does not mean that General is going into the department store business. It does mean that we will add a few basic items and it is to determine what these items shall be, and how they shall be merchandised, that we have added Mr. Gilman to our executive staff."

(It has been known in industry circles that Mr. Gilman has been making a quiet investigation of the refrigeration field, among others.)

A native of Wisconsin, Mr. Gilman entered the automotive field in 1919 as a truck salesman for the Packard Motor Car Co. of New York. He rose steadily in the organization and became general manager of Packard, in Detroit, in 1934. In 1939 he was made president and held that position until 1943, when he resigned.

DuBoff Quits Appliance Post With Bloomingdale

NEW YORK CITY—Philip L. DuBoff, past president of the National Housewares Buyers Association, and chairman of the National Retail Dry Goods Association and member of long-standing of the Major Appliance Steering Committee of the Associated Merchandising Corp., has announced his resignation after 15 years as manager for the major appliance, vacuum cleaner, and bulk housewares department at Bloomingdale Brothers, effective Aug. 1.

Mr. DuBoff now intends to give trial to a plan aimed at reducing distribution costs of major appliances, it was stated.

Crosley - -

(Concluded from Page 1, Column 2) electric ranges had been produced. The development work had been under the direction of Dr. A. J. Snow, who had previously been technical director for Sears, Roebuck & Co., appliance operations. Avco had also hired Philip J. Reilly, one-time managing director of Association Merchandising Corp. (AMC) to handle its merchandising plans.

Thus far, there has been no announcement as to how this will dovetail into the existing Crosley manufacturing and merchandising setup.

There had also been rumors that part of Avco's plans embraced an idea for establishing production facilities in various parts of the country in order to get certain distribution economies, but this was very much in a "rumor" stage.

Crosley Motors, Inc. To Produce Cars

CINCINNATI—Organization of a new company to be known as Crosley Motors, Inc., to manufacture the Crosley car will be announced in a letter to Crosley Corp. stockholders from Powel Crosley, Jr., it was announced here.

Assets of Crosley Corp.'s automobile department will be transferred to Crosley Motors, but Crosley Corp. will retain the right to use these assets until completion of engine contracts with the U. S. Navy, it was said.

A transfer of stock will be effected for the exchange of assets, and stock in Crosley Motors, Inc., will be offered to each shareholder of Crosley Corp. who sells to Aviation Corp., Mr. Crosley said.

Water Coolers - -

(Concluded from Page 1, Column 4)

be confused with any plan of governmental regulation or control, for they are commodity specifications voluntarily established by mutual consent of those concerned, the bureau emphasized, and will become established as trade customs through incorporation into sales contracts by means of labels, invoices, etc.

Copies of the new standard will be sent to "acceptors," and others interested may obtain copies from the Bureau of Standards, Washington 25, D. C.

D. A. Newton Moves to F. J. Evans Engineering

BIRMINGHAM, Ala.—D. A. Newton has joined the F. J. Evans Engineering Co., with branch offices at Atlanta and Houston, as air conditioning engineer of the heating and air conditioning division, the company has announced. The Atlanta offices will be his headquarters.

A specialist in the field of humidity control, Mr. Newton has served with Carrier Corp., with the central engineering division of U. S. Rubber Co., and with Larkin Coils, Inc., Atlanta manufacturers of air conditioning equipment, as chief engineer. He received his mechanical engineering degree from the University of Kentucky in 1926, and joined Carrier at that time.

The Evans organization handles equipment of the Surface Combustion Corp., Toledo, which developed the Kathabar method of humidity control for air conditioning systems.



Park, Vickery Promoted By G-E Division

GEORGE B. PARK (on the left) was recently named assistant advertising manager of General Electric Co.'s appliance and merchandising department, and E. F. VICKERY (on the right) was appointed operating manager for this advertising division.

Mr. Park came to G-E in 1939 after three years as advertising and sales promotion supervisor of Westinghouse air conditioning. Mr. Vickery has been with G-E since 1930 and comes to the appliance and merchandise department from the Schenectady, N. Y., plant.



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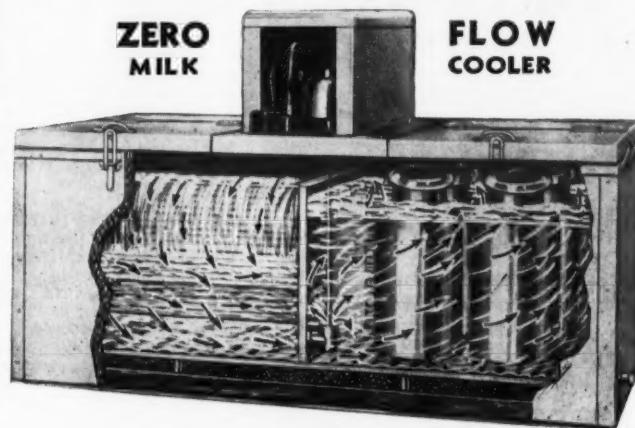
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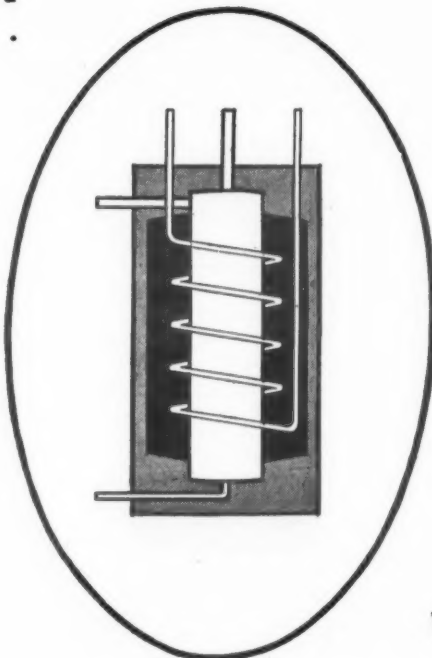


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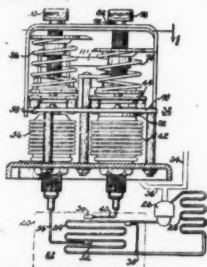
EBCO Mfg. Co.

401 W. Town Street
Columbus, S. Ohio

PATENTS

Weeks of May 29 &
June 5

2,376,913. REFRIGERATING APPARATUS. Albert O. Grooms, Dayton, Ohio, assignor to General Motors Corp., Dayton, Ohio, a corporation of Delaware. Application Nov. 16, 1940, Serial No. 366,001. 8 Claims. (Cl. 62-4.)



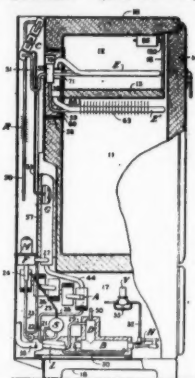
1. Refrigerating apparatus including cooling means for cooling a medium, means for circulating a refrigerating fluid through the cooling means, control means for controlling the starting and stopping of the circulation of refrigerating fluid, operating means responsive to the temperature of the medium and having a connection at all times with said control means; and an auxiliary means responsive to the temperature of said cooling means and having a lost motion connection with said control means.

2,377,000. REFRIGERATION. Dale G. Gerber, North Canton, Ohio, assignor to The Hoover Co., North Canton, Ohio, a corporation of Ohio. Application March 20, 1942, Serial No. 435,497. 11 Claims. (Cl. 62-119.5.)

4. Absorption refrigerating apparatus comprising an absorber, a generator, means connecting said absorber and said generator for circulation of absorption solution therebetween, a condenser connected to receive refrigerant vapor from said generator, an evaporator positioned at an elevation above said condenser, and said absorber, a gas heat exchanger construction having a central space sur-

rounded by a pair of concentric gas flow passageways, means connecting said evaporator and said absorber for circulation of inert gas therebetween including said pair of concentric gas flow passageways and pumping means including means extending through said central space of said gas heat exchanger for elevating refrigerant liquid from said condenser to said evaporator.

2,377,051. REFRIGERATION. Otis B. Sutton, North Canton, Ohio, assignor to The Hoover Co., North Canton, Ohio. Application Aug. 23, 1940, Serial No. 353,805. 21 Claims. (Cl. 62-5.)



1. Hermetically sealed absorption refrigerating apparatus comprising a solution circuit including a boiler and an absorber, an inert gas circuit including said absorber and a pair of evaporators, means for liquefying refrigerant vapor produced in said boiler, means for direct-

(Concluded on next page)

CLASSIFIED ADVERTISING

RATES for "Positions Wanted" \$2.50 per insertion. Limit 50 words.
RATES for all other classifications \$5.00 per insertion. Limit 50 words.
Advertisements set in usual classified style. Box addresses count as five words, other addresses by actual word count.
PAYMENT in advance is required for advertising in this column.

EQUIPMENT FOR SALE

FOR SALE: Prefabricated sectional new metal walk-in storage coolers, all sizes. 10 gal. water coolers. New bottle coolers. Frosted food cabinets. Water and air cooled condensing units. Write for list and prices. EDISON COOLING CORP., 310 E. 149th St., New York, 51, N. Y.

25-hp. Frick, 15-hp. Frick, 15-hp. Carrier all latest model "Freon" condensing units complete water cooled condensers (like new). New Weathermakers 5 to 20 ton. New air conditioning coils complete with expansion valves. CONTROLDTEMP EQUIPMENT SALES CO., 55 West 42nd St., New York 18, N. Y.

DRY BEVERAGE coolers. Double duty. New wall type dairy and vegetable display cases 6-feet and 8-feet long. New milk cooler. No priority, immediate delivery. 4-can \$220; 6-can \$245. Frosted food cabinets, self-contained reach-ins, walk-ins, compressors, diffusers. JORDON REFRIGERATOR CO., 235 N. Broad St., Philadelphia 7, Pa.

FRANCHISES WANTED

WISH TO establish relations with renowned manufacturers of Household refrigerators, air conditioning, and ice plants. AMERICAN REFRIGERATOR CO., P. O. Box 500, Calcutta, India.

POSITIONS AVAILABLE

DRAFTSMAN and engineer for heating, ventilation, and air conditioning. KROESCHELL ENGINEERING CO., 215 West Ontario St., Chicago.

EXPERIENCED refrigeration cabinet design engineer. War work at present. Excellent postwar opportunity. Box 1723, Air Conditioning & Refrigeration News.

CHICAGO TERRITORY. Refrigeration sales engineer. Large, rapidly expanding refrigeration sales and service company. Excellent opportunity for man capable of handling all types commercial refrigeration and air conditioning. Good salary and commission. Unlimited contacts with all types of businesses through large service organization. Give full experience. Box 1740, Air Conditioning & Refrigeration News.

MAN for commercial refrigerator production on coolers, cases, etc. Capable of drafting, designing, engineering, and handling complete factory operation in small plant with an old time firm located central U. S. Offering best of opportunity to qualifying party. Write Box 1743, Air Conditioning & Refrigeration News.

HAVE OPENING for service man in radio and appliances including automatic washers. Must be capable in making repairs and also supervise service department and contact dealers. If interested address Box 4429 Jacksonville, Fla. Give experience and references.

SHOPMAN: Refrigeration repairs. Hourly rate \$250 month guaranteed. Opportunity for promotion to shop superintendent. COMMERCIAL REFRIGERATION, INC., formerly Oil Heating Devices, Inc., 1835 E. 24th St., Cleveland, Ohio. Cherry 7393.

EXCEPTIONAL OPPORTUNITY: Nationally known western Wisconsin manufacturer commercial refrigeration cabinets has unusual opportunity for well trained refrigeration man with practical experience, capable assuming supervision of refrigeration installation department. Give complete information as to age, education, qualifications, history past employment, and references in first letter. Write Box No. 1758, Air Conditioning & Refrigeration News.

WANTED: Refrigeration service and installation man. Top wages, best of living conditions. A job with a permanent future for the right man. Box 1756, Air Conditioning & Refrigeration News.

AIR CONDITIONING Engineering Representative, by large utility in East. Experience all types industrial, commercial, residential systems. No selling. Represent company with present customers, contractors, manufacturers; direct activities to promote business. Ability to design systems, supervise installation, insure proper application of utility services. Write for interview. Box No. 1755, Air Conditioning & Refrigeration News.

EXPERIENCED SHIPPING Room Clerk For Refrigeration Supply Jobber. Permanent position. Excellent opportunity for man selected. CHASE REFRIGERATION SUPPLY CO., 546-48 W. 119th St., Chicago 28, Ill.

REFRIGERATION ENGINEER, qualifications both inside engineering and layout work and some outside contacting plant engineers on specialized refrigeration problems. Engaged manufacture of industrial cooling units at present and are planning to expand line to meet postwar needs. Salary commensurate with experience. Replies held strictly confidential. Box No. 1754, Air Conditioning & Refrigeration News.

NATIONALLY KNOWN refrigeration lowside manufacturer in the East has openings with opportunities in sales organization. Must have refrigeration background. State full details in first letter. Box No. 1746, Air Conditioning & Refrigeration News.

HAVE an unusual opportunity for an experienced refrigeration mechanic to direct and supervise our Service & Installation Department. Also good opening for several good service men. These

openings for our Chicago Branch Box 1744, Air Conditioning & Refrigeration News.

BUSINESS OPPORTUNITIES

WELL ESTABLISHED Domestic Commercial Refrigeration Sales and Service business in Schenectady, N. Y. and distributor for reputable national manufacturer, complete with stock, tool fixtures, land and buildings; will sell aggressive organization \$10,000 required. Box No. 1757, Air Conditioning & Refrigeration News.

EQUIPMENT WANTED

WANTED BY Pacific Coast distributor the following equipment: air conditioning compressors 1/2 hp. to 30 hp. and air conditioning coils; also line of domestic and farm frozen food cabinets. Box No. 1758, Air Conditioning & Refrigeration News.

WE NEED machines. Refrigeration and air conditioning equipment is in great demand now. A wire will bring you cash fast for used or surplus stock. Commercial, air conditioning and all specialties any quantity. E. M. FAIRBANKS COMPANY, 2548 East Tremont Ave., New York 61, N. Y.

POSITIONS WANTED

DOMESTIC REFRIGERATOR mechanic desires to contact well known air conditioning and commercial refrigeration company. Anthony Merola, 2364 Valentine Ave., Bronx, New York, N. Y.

REFRIGERATION DESIGN and Development Engineer. Fully conversant with the requirements for successful operation in the commercial refrigeration and home freezer fields, wishes to contact prospective or established manufacturers. Has had extensive engineering and manufacturing experience in the unit and cabinet fields. Box 1745, Air Conditioning & Refrigeration News.

REFRIGERATION PRODUCTS

fedders
BUFFALO, N. Y.

AUTOMATIC

Pressure, Temperature
and Flow Controls

GENERAL CONTROLS
801 ALLEN AVENUE • GLENDALE 1, CALIF.
Branches: Boston • New York • Philadelphia • Cleveland
Detroit • Chicago • Dallas • Denver • San Francisco

LABORATORY PROJECT
ENGINEERS

with experience in electrical or mechanical development work. Able to handle all testing of a product or specialized project. Nationally known refrigerator manufacturer with excellent present and post-war opportunities. State qualifications and experience. Box No. 1725, Air Conditioning & Refrigeration News.

CHIEF INSPECTOR

Chief Inspector to head inspection division of nationally known household refrigerator manufacturer. Must be a graduate of an accredited engineering college with ten years experience in refrigeration or related fields. Requires thorough knowledge of machine shop technology and assembly practice. State qualifications and experience. Box No. 1734, Air Conditioning & Refrigeration News.

Manufacturer's Representative

with well established following among refrigeration and air conditioning jobbers, contractors, and sales-service organizations in Metropolitan New York market now making plans for postwar equipment distribution. Seeks one of two outstanding lines for intensive development in this area. Box No. 1749, Air Conditioning & Refrigeration News.

DO YOU DESIRE
REPRESENTATION IN
MIDWEST

Firm with established offices in Dayton to represent manufacturers in Midwest. Personnel traveling through Midwest territory have engineering and sales background and intimate knowledge of refrigeration, automotive, aircraft, and other industries. Now is the time to get set for the large postwar markets in this territory. Well financed. Write today. Box No. 1761, Air Conditioning & Refrigeration News.

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P. O. Box 2075
1301 Wicomico Street
Baltimore 3, Md.
Phone: Gilmore 0222
Teletype: BA 164

MICHIGAN DIVISION
5851 West Jefferson Avenue
Detroit 9, Mich.
Phone: Vinewood 1-7350
Teletype: DE 237

ROME DIVISION
Rome, New York
Phone: Rome 2000
Teletype: ROME NY 447

MAGNESIUM-ALUMINUM DIVISION
P. O. Box 2075
1301 Wicomico Street
Baltimore 3, Md.
Phone: Gilmore 0222
Teletype: BA 164

DALLAS DIVISION
2200 No. Natchez Avenue
Chicago 35, Ill.
Phone: Merrimac 2600
Teletype: CG 957

NEW BEDFORD DIVISION
24 North Front Street
New Bedford, Mass.
Phone: New Bedford 8-5601
Teletype: NB 87

CHICAGO MANUFACTURING DIVISION
2200 No. Natchez Avenue
Chicago 35, Ill.
Phone: Merrimac 2600
Teletype: CG 957

ROME MANUFACTURING COMPANY DIVISION
Rome, New York
Phone: Rome 2800
Teletype: ROME NY 449

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140 Federal Street
Phone: Hubbard 7190

BUFFALO 7, N. Y.
1807 Elmwood Avenue
Phone: Delaware 7616

CINCINNATI 2, OHIO
Carew Tower
Phone: Main 0130
Teletype: CI 171

CLEVELAND 15, OHIO
Midland Bldg.
Phone: Cherry 3930
Teletype: CV 572

DALLAS 1, TEXAS
Tower Petroleum Bldg.
Phone: Central 8681
Teletype: DL 88

DAYTON 2, OHIO
Mutual Home Bldg.
Phone: Hemlock 3271

GRAND RAPIDS 2, MICH.
Keeler Building
Phone: Grand Rapids 8-0311 & 6-1314
Teletype: GR 376

HARTFORD 3, CONN.
410 Asylum Street
Phone: Hartford 2-3828
Teletype: HF 87

HOUSTON 2, TEXAS
Mellie Esperson Bldg.
Phone: Fairfax 7932

INDIANAPOLIS 4, IND.
Circle Tower
Phone: Market 1908

LOS ANGELES 15, CALIF.
714 W. Olympic Blvd.
Phone: Richmond 9314

MILWAUKEE 2, WIS.
626 E. Wisconsin Avenue
Phone: Marquette 1440
Teletype: MI 292

MINNEAPOLIS 2, MINN.
Metropolitan Bldg.
Phone: Atlantic 3285

NEW YORK 17, N. Y.
New York Central Bldg.
75 East 45th Street
Phone: Murray Hill 9-6800
Teletype: NY 1-1222

PHILADELPHIA 3, PA.
Sixteen Sixteen Walnut St. Bldg.
Phones: Bell-Pennypacker 6133
Keystone-Race 1847
Teletype: PH 206

PITTSBURGH 19, PA.
Gulf Bldg.
Phone: Court 4342
Teletype: PG 572

PROVIDENCE 3, R. I.
Industrial Trust Bldg.
Phone: Gaspee 8110

ST. LOUIS 1, MO.
Telephone Bldg.
1010 Pine Street
Phone: Garfield 4416
Teletype: SL 191

SAN FRANCISCO 4, CALIF.
Russ Bldg.
Phone: Sutter 0282

SEATTLE 1, WASH.
1331 Third Avenue
Phone: Main 8372

REVERE



Served by each of the Revere Offices is a group of Revere Distributors who can supply you with Revere Dryseal Copper Tube for refrigeration, air conditioning, heat control, bottled gas, and many other services. If you do not know where your Revere Distributor is located, call the nearest Revere Office for his name and address.

REVERE

COPPER AND BRASS INCORPORATED

Founded by Paul Revere in 1801

Executive Offices: 230 Park Avenue
New York 17, N. Y.

MAN WITH IMAGINATION WANTED

Old established mid-western manufacturer who can qualify as manager of a small department specializing in a limited number of refrigerated items manufactured on production basis. Must have experience in refrigeration industry and be capable of assisting in design and engineering of new products. Main duties will be handling sales and service activities under the supervision of the vice-president in charge of marketing. Immediate opening with excellent postwar future. Salary commensurate with ability and performance. Give qualifications in first letter.

Address Box 1760

Air Conditioning & Refrigeration News

NIBCO WROT

AND CAST
VALVES AND FITTINGS
for Refrigeration

NORTHERN INDIANA BRASS CO.
ELKHART, INDIANA

RECOLD

WATER DEFROST

RECORDING COMPS WATER-DEFROST
REFRIGERATION ENGINEERING Inc.
LOS ANGELES - CALIFORNIA

By comparison-
You'll buy
PAR
REFRIGERATION EQUIPMENT
WRITE FOR CATALOG
Lynch
MANUFACTURING CORPORATION
DEFIANCE, OHIO, U. S. A.

SPECIFY...
DRYERS
THAT
BEAR
THIS
LABEL
CHARGED
DAVISON'S
IN
SILICA GEL
WITH
The label that is your guarantee of maximum performance and satisfaction. Your jobber stocks it—for refilling and in factory charged dryers.

KOLD-HOLD
NEW LOW SIDE PLATES
Having Greater Efficiency
Serpentine Plates for locker plants, sharp freezing cabinet liners, and beverage cooling. Streamline Truck Plates for refrigerated transportation.

KOLD-HOLD MANUFACTURING CO.
435 N. Grand Ave. • Lansing 4, Mich.
(CL. 200-81.5.)

Electrimatic

AUTOMATIC CONTROL
VALVES AND REGULATORS

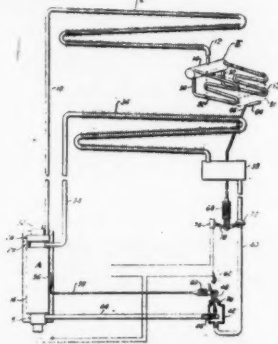
2100 INDIANA AVENUE • CHICAGO 16, ILL.

Patents (Cont.)

(Concluded from preceding page)

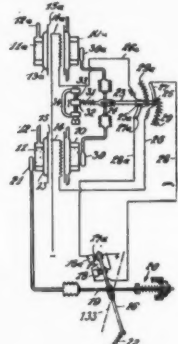
ing the inert gas and liquefied refrigerant into one only of said evaporators, and magnetic means positioned exteriorly of the fluid confining walls of said apparatus for operating said directing means.

2,377,319. **REFRIGERATION.** George A. Brace, Takoma Park, D. C., assignor to The Hoover Co., North Canton, Ohio, a corporation of Ohio. Application March 20, 1942, Serial No. 435,491. 12 Claims. (Cl. 62-118.)



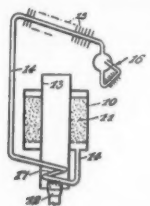
1. An intermittent absorption refrigerating machine including an absorber-generator having an absorbent receiving chamber charged with a refrigerant and an absorbent, the absorbing characteristics of which are subject to impairment if the same is contacted by liquid refrigerant, a condenser above said absorber-generator, a conduit leading from said absorber-generator to said condenser, a heating tube for said absorber-generator, and a liquid trap in said conduit above said absorber-generator in direct heat exchange relationship with said heating tube and connected to said absorbent receiving chamber by an upwardly extending vapor conduit.

2,377,332. **ABSORPTION REFRIGERATING APPARATUS.** Nils Erland af Kleen, Stockholm, Sweden, assignor to Kleen Refrigerator, Inc., Hoboken, N. J., a corporation of Delaware. Application May 15, 1941, Serial No. 393,599. 15 Claims. (Cl. 62-5.)



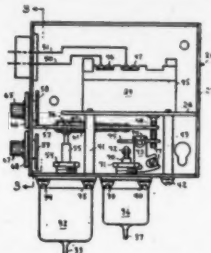
13. Absorption refrigerating apparatus including two boiler-absorbers having alternate heating and cooling periods, heating means for said boiler-absorbers, cooling means for said boiler-absorbers, and control means constructed and arranged to operate said heating means to heat each boiler-absorber to a predetermined end temperature and to prevent operation of said cooling means until both boiler-absorbers have been heated to their respective predetermined end temperatures.

2,377,333. **ABSORPTION AND ADSORPTION REFRIGERATING APPARATUS.** Nils Erland af Kleen, Stockholm, Sweden, assignor to Kleen Refrigerator, Inc., Hoboken, N. J., a corporation of Delaware. Application Dec. 22, 1941, Serial No. 423,875. 5 Claims. (Cl. 62-118.)



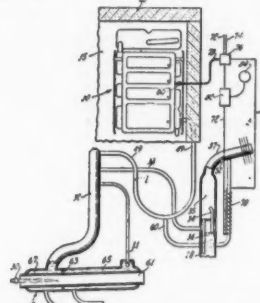
2. In absorption refrigerating apparatus of the type operating with a refrigeration fluid in conjunction with solid absorbent material and including a generator, heating means for said generator, and a condenser arranged at a higher level than said generator; the combination of a conduit interconnecting said generator and said condenser for the passage of vapors, said conduit having a coil portion adjacent its connection with said generator arranged to be heated by said heating means to prevent condensation of vapors in their passage from the generator to the condenser and return of condensate to the generator.

2,377,503. **REFRIGERATION CONTROL.** Carl G. Kronmiller, Minneapolis, Minn., assignor to Minneapolis-Honeywell Regulator Co., Minneapolis, Minn., a corporation of Delaware. Application Dec. 20, 1940, Serial No. 371,001. 26 Claims. (Cl. 200-81.5.)



1. In a device of the class described, in combination, a switch, switch actuating means, comprising a floating lever for operating the switch to both of its positions, means forming stops between which the lever moves, means for moving the lever between said stops to actuate the switch, and a separate automatic means for directly actuating the switch independently of the lever.

2,377,782. **REFRIGERATION.** Fritz A. Hedman, Meadville, Pa., assignor to Servel, Inc., New York, N. Y., a corporation of Delaware. Application Aug. 9, 1941, Serial No. 406,075. 11 Claims. (Cl. 62-3.)



4. In the method of operating a refrigerator having a cooling element therein to produce a cooling effect with the aid of the system in which refrigerant vapor is liquefied and such liquid refrigerant normally flows to the cooling element for evaporation therein to produce the cooling effect, and in which the cooling element is defrosted by intermittently reducing the normal flow of liquid refrigerant to the cooling element and introducing refrigerant vapor into the cooling element to cause melting of frost or ice accumulated thereon, the improvement

which consists in restricting the introduction of refrigerant vapor into the cooling element and allowing the normal flow of liquid refrigerant to said cooling element to continue, even when it is desired to effect defrosting, as long as the light intensity in the vicinity in which the refrigerator is located is at or above a predetermined value.

Wierman Heads Milwaukee Chapter of RSES

MILWAUKEE—Felix R. Wierman of the Perfex Corp. was recently elected president of the Refrigeration Service Engineers Society chapter here. Mr. Wierman was instrumental in reorganizing the Milwaukee Chapter.

Other officers elected were: G. D. Wang, first vice president; Herbert Beck, second vice president; George Shirmacher, secretary; Walter Stelma, treasurer; and Leo Slawner, sergeant-at-arms.

The monthly meetings of the R.S.E.S. are held at the Milwaukee School of Engineering, 1020 North Broadway, on the first Tuesday of every month. The charter will soon be presented to the Milwaukee Chapter by the officers of the International Society.

2 New Air Conditioning Firms Formed in Buffalo

BUFFALO—Business names have been filed for two heating and air conditioning firms here. They are Automatic Heating & Appliance, 823 Niagara St., Joseph Mondo, and Daverne Heating & Air Conditioning Co., 389 Hewitt Ave., Ray M. Daverne.

Bowen

REFRIGERATION
SUPPLIES, INC.

Atlanta Jacksonville
Tampa Charlotte
"The South's Largest
Refrigeration Supply Jobber"

GENUINE
MAYFLOWER

CONDENSING UNITS AND PARTS

Jobber Inquiries Invited

A complete line backed
by nearly a quarter century
of user confidence.
Write for prices.



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WATER
COOLERS

BRANCHES
IN PRINCIPAL CITIES
MAIN OFFICE
440 LAFAYETTE ST.
New York 3, N. Y.

PURO FILTER CORP.
OF AMERICA

DRINKING WATER
SPECIALISTS FOR 40 YEARS.



Post-War FILTERPURE UNIT COOLERS

3

BIG FEATURES

1-New, Exclusive BETZ
Coil Construction
2-Guaranteed Ratings
3-Prices Below Pre-War

PLUS MANY MORE

Heavy-Duty Motor with
oversize oil reservoirs
Built-in Drier Coil
Fan and motor mounted in safety guard
Quiet, positive pressure fan
Rustproof metal cabinet
Baked enamel finish
Streamline construction
Adjustable louvers
Slotted hangers for easy installation
Complete range of capacities

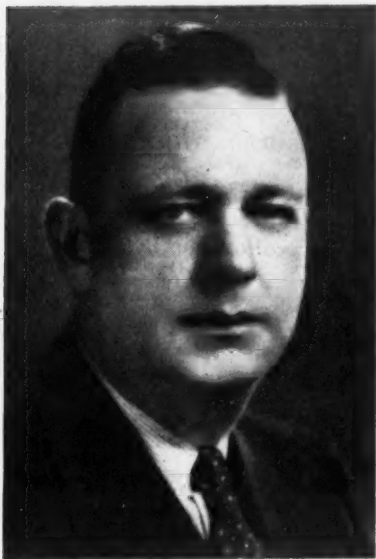
Let us send you complete information about our post-war
line of cooling units. They are new and different.

BETZ CORPORATION

HAMMOND, INDIANA

For Information,
Call or Write-

In New Sales Job



CHARLES R. LOGAN

Was recently appointed vice president in charge of sales for Electric Power Equipment Corp. of Philadelphia, which plans to enter the refrigeration field.

Washers - -

(Concluded from Page 1, Column 3) mal distribution channels, WPB announced.

Because materials and components needed for production of washers will be obtainable in varying quantities and at various times, it may be some time before all are in balance, WPB warned.

Under Order L-6, covering domestic washing machines, manufacturers can apply for permission to produce with priorities assistance by filing form WPB-3700 with WPB field offices. Manufacturers in Group I or Group II labor areas who employ more than 100 workers are required to obtain approval on form WPB-3820 for the use of labor, WPB said.

Whenever practicable, each applicant will receive a pro rata share of his productive capacity, based upon his facilities and the availability of manpower, according to WPB.

Approved list of third-quarter washer manufacturers and their quotas follows:

Nineteen Hundred Corp.,	
St. Joseph, Mich.	38,821
General Electric Co.,	
Bridgeport, Conn.	18,430
Bendix Home Appliances, Inc.,	
South Bend, Ind.	18,000
The Maytag Co.,	
Newton, Iowa	38,504
Norge Division,	
Borg-Warner Corp., Detroit ..	7,842
Automatic Washer Co.,	
Newton, Iowa	6,700
Dexter Co., Fairfield, Iowa	6,400
Landers, Frary & Clark,	
New Britain, Conn.	5,600
Appliance Mfg. Co.,	
Alliance, Ohio	4,900
Zenith Machine Co.,	
Duluth, Minn.	4,200
One Minute Washer Co.,	
Kellog, Iowa	3,200
Westinghouse Electric Corp.,	
Mansfield, Ohio	3,200

Williams - -

(Concluded from Page 1, Column 4) um cleaner field, plans to augment its prewar line with a cordless electric iron, sink garbage disposer unit, and other household appliances," said Mr. Matheson.

"Oil-O-Matic will continue with a complete line of conversion burners, boiler-burner units, furnace-burner units, and oil-burning water heaters. Our plans are in tune with the tremendous expansion of the oil heating market with its predicted \$900,000,000 in sales for the first five postwar years."



for satisfactory service

Important any time, but more so now. MANHATTAN Whipcord F/HP V-Belts keep home and store equipment running.

MORE POWER—grip the grooves, stop slips, uniform "pull."

LONGER LIFE—Endless cord construction resists internal heat and side wear.

SILENT RUNNING—Smooth and noiseless on high-speed drives.

THE MANHATTAN RUBBER MFG. DIVISION
of Raybestos-Manhattan, Inc.
Executive Offices and Factories . . . Passaic, N. J.

Few Ranges - -

(Concluded from Page 1, Column 5) version, committee members said.

Use of electric timing control clocks, and lamps, has not been permitted, except by specific authorization. Sale of these clocks and lamps as accessories was suggested at the meeting, and will be a further subject for discussion at the committee's next meeting, tentatively set for Aug. 16.

Not all materials will be available on the open market during the transitional period, WPB representatives emphasized. While ranges identical with those of prewar models will be difficult to produce, it is believed that range manufacturers will be able to procure satisfactory substitutes for materials in short supply, they said.

Fedders - -

(Concluded from Page 1, Column 2) automatic expansion valves, constant pressure valves, as well as coils, evaporators, and condensers.

A considerable part of Fedders' wartime production facilities has been devoted to oil coolers and heat interchangers for aircraft.

Just how rapidly the company can return to all-out production of its unit coolers and condenser coils is not known at present, Mr. Scott said, declaring that one important difficulty is the shortage of engineers on the Fedders staff.

"We will also have to re-establish our sales organization, and we haven't decided just how we will distribute our unit cooler line," he added, "but I expect considerable expansion of our activities."

Connecticut Valley Section of A.S.R.E. Organized;
Council Told Membership Has Doubled In 3 Years

CINCINNATI—John F. Stone, national president of the American Society of Refrigerating Engineers, presented a charter to the chairman of the new Connecticut Valley section, A. W. Towson, at a meeting of the A.S.R.E. council held June 11 in the Hotel Gibson here.

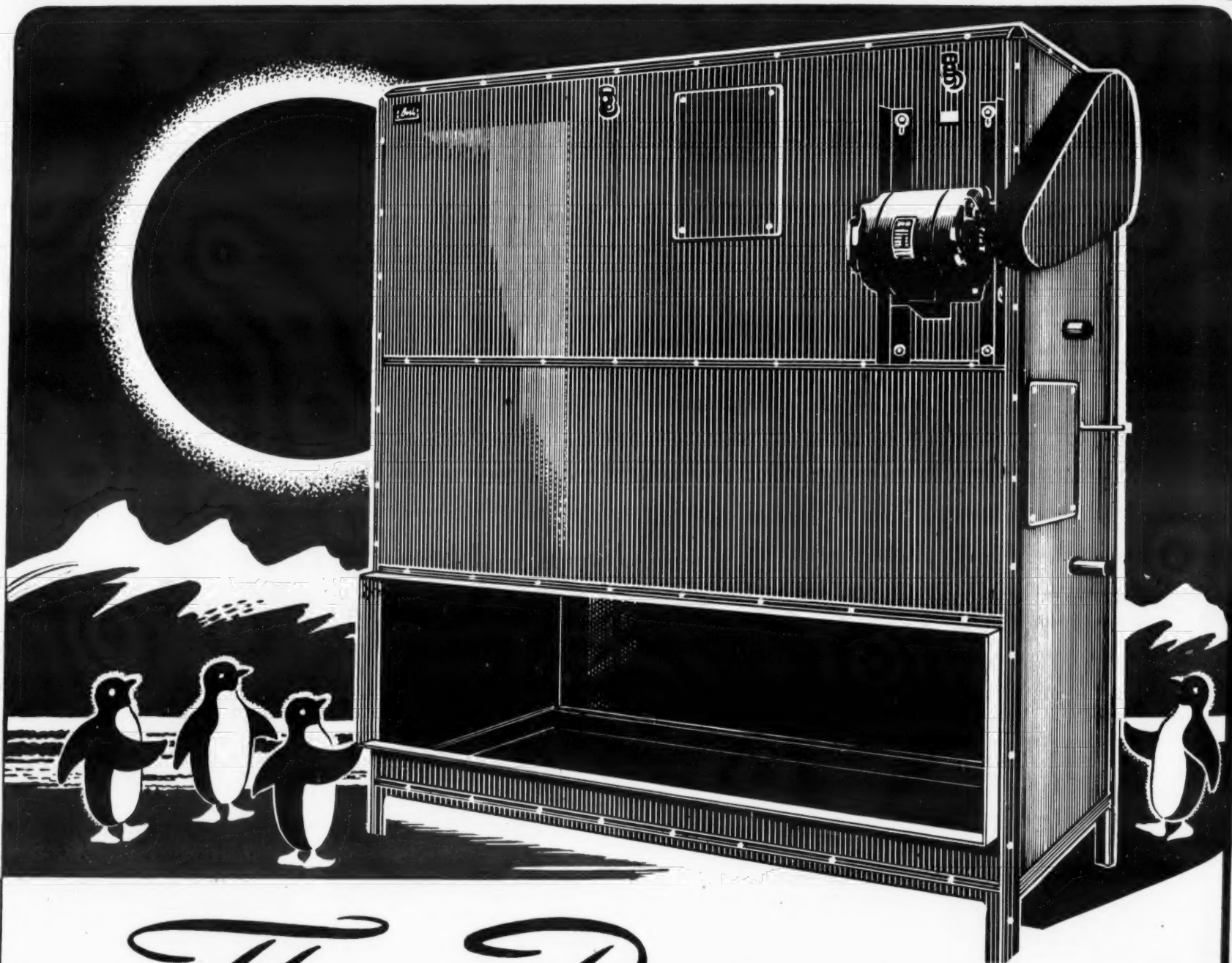
Deliberations by the council included a discussion of the Society's future policies in connection with research and standardization, as well as reports from all standing committees.

Chairmen or appointed representatives of each of the 21 local sections of A.S.R.E. were present at a meeting of the organization's sections committee also held here June 11.

At this session, presided over by William S. Woodside, chairman of the committee, improved methods of conducting section affairs were discussed. The executive and finance committees of the Society also met on the same day.

Membership of the organization has increased by 688 members and associates during the past nine months, the total membership being 3,713, as of May 31. This is practically double the membership roll on May 31, 1942.

No definite action on time or place of the forty-first annual meeting was taken, since present ODT regulations may still be in effect in December of this year.



Heavy Duty COOLERS

Offering a wide selection of capacities to meet the requirements of any job, Bush Heavy-Duty Coolers meet government specifications and are used by the U.S. Army and Navy. Compact and neatly designed, only the finest materials and parts are used in their manufacture.

Designed for convenient installation and service,

Bush Heavy-Duty Coolers are available for temperatures above or below 32° F. (Low temperature models equipped with water defrosting feature.)

Write for new Bush Catalog which illustrates and describes the Heavy-Duty Cooler . . . and other Bush Heat Transfer Products. For advanced engineering . . . Buy Bush.



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EXPORT ADDRESS: 13 EAST 40TH STREET, NEW YORK * CABLE "ARLAB"